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THE

THEISTIC ARGUMENT

AS AFFECTED BY RECENT THEORIES

A COURSE OF LECTURES DELIVERED AT THE LOWELL INSTITUTE IN BOSTON

BY

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PREFACE.

PROFESSOR DIMAN, the author of this volume, died, after a short illness, on the 3d of February, 1881. From the time of his acceptance of the Chair of History and Political Economy in Brown University, in 1864, he devoted himself chiefly to historical studies, for which from early life he had shown a remarkable aptitude. His enthusiasm in this department, however, and the brilliant success which he attained as a teacher, did not dull the interest, which he had likewise early manifested, in Philosophy. While preparing for the Christian ministry, he had spent two years in Germany, where he numbered among his instructors Julius Müller and Rothe, Erdmann, Ulrici, and Trendelenburg. During those years his time was mainly given to the study of Kant, and of the series of philosophers in the line of succession from him. While a Pastor, and after he became a Professor, the problems which belong to metaphysics and theology in common, to the exploring of which the marvelous advance of natural and physical science has lent a new stimulus, continued to engage his attention. Indeed, it was the flavor of a certain

speculative element, kept within due bounds, that imparted a peculiar fascination to his portrayal of historical persons and eras. When, therefore, he was invited to give a Course of Lectures at the Lowell Institute, in the spring of 1880, on the foundations of Natural Religion, he needed no other qualification than a careful review of the recent literature on the subject. This preparation was conscientiously made. In particular, the most prominent writers, as Mill, Spencer, Huxley, Darwin, Tyndall, who have dealt directly or indirectly with these topics from points of view more or less at variance with prevalent opinion, he examined afresh. At the same time he did not pass by the ablest of the later writers in defense of Theism. I perceive that he had profited especially by the perusal of Janet's thorough treatise on "Final Causes," and Professor Flint's excellent volumes on "Theism" and "Anti-Theistic Theories." The result of his reflections and researches appears on the pages which follow.

In fulfilling the request that I should superintend the publication of these Lectures of a dear and most valued friend, I have had no hesitation in deciding to print them precisely as they were left by the author. The changes of phraseology are very few, and are confined almost exclusively to such obscurities or slight inaccuracies of expression as are incident to rapid composition. In cases where the author had noted in an abbreviated form the title

of a book from which a citation is drawn, I have made the reference more full and exact. In other cases where it appeared desirable to add references not indicated at all in the manuscript, I have enclosed them in brackets. Had Professor Diman himself prepared these discourses for the press, he might have curtailed certain passages and expanded others, have fortified his argument anew at various points, and have made the whole volume, both as to matter and style, more closely conformed to his high standard of literary work.

At the same time I do not feel that the book needs any apology. It will be found to be distinguished from most of the recent publications on the subject by its freedom from technical language, and by the luminous treatment which is fitted to commend it to the favor of thoughtful persons not specially addicted to metaphysical reading. It is marked by the elevation and grace which, as they were part and parcel of the author's mind, could not fail to enter into all the productions of his pen. The discussion is conducted throughout with absolute candor. Nowhere is there an attempt to forestall the judgment of the reader by raising a prejudice against an opinion that is to be controverted. The doctrines and the reasoning of adversaries are fully and even forcibly stated. Vituperation is never substituted for evidence. Nothing in the way of objection that deserves consideration is passed by. The entire field suggested by the theme is traversed.

Whatever dissent may arise in the reader's mind in reference to any of the positions which are taken by Professor Diman, or the reasons by which they are maintained, there can be, as I believe, among competent judges but one opinion as to the acuteness and vigor, as well as the learning and fairness, with which the argument is pursued.

GEORGE P. FISHER.

NEW HAVEN, *May* 19, 1881.

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THE THEISTIC ARGUMENT.

LECTURE I.

PRESENT ASPECTS OF THE PROBLEM.

In beginning a course of lectures, like the present, I am well aware that I lay myself open to what may seem a grave objection. Are not the questions, it may be asked, which will claim our consideration, as old as human thought, and have they not been explored to the utmost limit to which thought can hope to go? Can anything be said that has not been said already? In other directions of inquiry we may add to the sum of human knowledge, but when we reach the line that severs the seen from the unseen, the natural from the supernatural, are we not treading an eternal circle, and only echoing the opinions, while we modify the phrases, of earlier thinkers? As respects the grounds of religious belief, the philosopher of the present day, it is claimed, has no advantage over the sages of antiquity. Advance in knowledge has in no way affected the force of the argument. "The reasoning," says Macaulay, "by which Socrates, in Xenophon's hearing, confuted the little atheist Aristodemus, is exactly the reasoning of Paley's natural theology. Socrates makes precisely the same use of the statues of Poly-

cletus and the pictures of Zeuxis which Paley makes of the watch." "Natural theology, then, is not a progressive science." [1]

As with many of Macaulay's maxims, there is a sense in which this statement is true, but a very important sense in which it mistakes the truth. No one will deny that the great problems of natural theology are the same to-day that they were in the days of yore. Yet any one but slightly versed in the history of opinions must equally admit that the attitude of the human mind, with reference to these problems, has been marked by many changes. It is, indeed, only a most superficial view which affirms that history repeats itself. True, as we study certain aspects of the past, we are struck with what seem the marvelous resemblances to our own time. In ancient states there were periods of youth and periods of decline, and as we turn the pages of their annals what we have been used to look upon as ancient becomes strangely modern. Yet, after all, it is only analogy that we can trace, and not a perfect parallel. For the conditions of successive epochs can never be precisely the same. Beneath an apparent likeness is veiled an essential difference. As little in its opinions, as in its dress, does one age ever reproduce another.

In the following discussion it will be my aim to show how the great problems which make up what is called natural religion, — the problem of the existence of a Supreme Being, of a divine order in nature and in human life, of the immortality and moral responsibility of man, — have been affected by some of

[1] Macaulay, "Ranke's History of the Popes" (*Essays*, Am. ed., vol. iv., pp. 303, 204).

the more recent phases of human thought. The inquiry, at best, under the limitations imposed by a course of lectures like the present, can only be incomplete. A full examination of any of the questions which such an investigation covers would demand a minuteness of treatment intolerable to the most patient and attentive hearer. I can only hope to single out the more salient aspects of my subject, and shall willingly forego any praise for elegance of treatment if I can succeed, by the plainest and most simple language, in setting my subject-matter clearly before you. The ascertainment of truth is my single aim. In the presence of the solemn mysteries which we are about to probe all lesser considerations should be forgotten.

One of the greatest thinkers of all time has said that the business of philosophy is to answer three questions: What can I know? What ought I to do? and, For what may I hope? If I may venture to modify this sentence, I would make it read, not the business of *philosophy*, but the business of *life*. The problems here presented are not problems for the professed student alone, but problems which present themselves to every man, and, if we consider them carefully, it is plain that they virtually resolve themselves into a single one. Evidently the questions 'what I ought to do,' and 'what I may hope for,' can only be answered when I have answered the prior question, What can I know? For "rational expectation and moral action are based upon belief," and belief is the result of knowledge. The grounds and the boundaries of knowledge belong to a distinct field of inquiry, but that knowledge, on whatever basis it may be found to rest, is the condition of responsible

action and of intelligent belief, seems a principle so evident that it needs only to be stated. The question that first confronts us, then, is, What can I know?

On the far-reaching scope of this inquiry I surely need not enlarge. It is the question which first confronts us; and it is the question which gives every other question its meaning. The questions which, as a rational being, I am forced to put to myself, 'Whence am I?' 'For what was I made?' and 'Whither am I going?'—are these questions which I have a right to ask, questions to which I may expect an answer; or do they lie outside the boundaries of any knowledge to which I can reach, and are they simply insoluble enigmas which sober reflection will leave in the region of dream-land? The question whether I myself am simply the passing effect of an indefinite succession of physical forces, a single step in the unresting evolution of a purely natural order, a momentary pause between an unfathomable past and an unfathomable future, a helpless link in a chain of consequences whose beginning and end stretch alike beyond the limit of legitimate inquiry; or whether I am endued with the attributes of a moral being; whether I am related to a supernatural order; whether I can by conscious volition control my own acts; and whether I am held to a responsibility which invests my brief mortal life with an immortal import,—this question, whatever form it may take, evidently throws every other question of life into insignificance. Until this is answered all other questions are of little account. I may seek to occupy myself with the study of the external world; I may search out the subtle properties of matter;

I may analyze the mysterious forces whose restless movement masks itself behind the perplexing phenomena of physical nature; I may note the wondrous order of the heavens; delight myself with the evidence of an ever-present law comprehending the dust in the sunbeam, and the constellations set in the flaming walls of space; or, may busy myself with the study of man, — trace back his history to its remote and unrecorded beginning, gather the proofs of his upward progress from age to age, strive to elicit from his supreme achievements the secret of his restless aspiration, seek to comfort myself with the prospect of his future perfectibility, to trace the increasing purpose that runs through his years, — but I come back again unsatisfied to the haunting question, 'What am I myself, what do I know, what have I to do?' Nothing else profits if I cannot answer this.

While these problems are as old as philosophy itself, they have never been presented with the distinctness, and never been urged with the searching force with which they are clothed at the present hour. The question as to the nature and limits of human knowledge is the one that crops out of all the philosophical and scientific discussion of the day. It is the underlying granite that shows itself whenever the superficial strata are disturbed. And it is not a matter for regret, but rather for congratulation, that the controversies of the day have converged to this point. For this is the final issue on which lesser difference of opinion turns; and it can but be regarded as a wholesome symptom that the very school which so arrogantly discarded metaphysics has been brought at last to recognize so

clearly the great truth that even physical inquiries result in metaphysical principles, and that the newest conclusions of science carry us back to a region where something more than science must be called into request. The science simply of natural things rests on fundamental truths which are the first principles of the whole edifice of human knowledge. The boundary line which divides legitimate and positive knowledge from empty theory and assumption was first traced out by philosophers. If Descartes laid the foundation of modern philosophical criticism by his inquiry into the nature of certainty, it was the more sober genius of Locke which taught the busy mind of man "to be more cautious in meddling with things exceeding its comprehension; to stop when it was at the utmost extent of its tether; and to sit down in quiet ignorance of those things which upon examination are found to be beyond the reach of our capacities." "We should not then," he says, "be so forward, out of an affectation of universal knowledge, to raise questions and perplex ourselves and others with disputes about things to which our understandings are not suited, and of which we cannot frame in our minds any clear and distinct perception, or whereof, as it has perhaps too often happened, we have not any notion at all. We shall not have much reason to complain of the narrowness of our minds if we will but employ them about what may be of use to us. Our business here is not to know all things, but those which concern our conduct."[1]

The conclusion from which Locke was saved by his strong sense and his sincere religious faith did

[1] Quoted by Huxley, *Hume*, p. 54.

not appall the more subtle genius of Hume. In regions where the English philosopher only recommended caution, his Scottish follower boldly advocated skepticism. Locke has been accused of inconsistency. Attacking the theory of innate ideas, it has been said that he yet clings to conceptions vitally associated with that theory. Thus asserting that all our knowledge comes through the senses, he allows that we yet know of a being who cannot be manifested through the senses. No such complaint has been brought against Hume. Unlike Locke, he was free from theological prepossessions. He was content to follow logic wherever it led him. He completes the critical movement which Locke began and did not push to its legitimate results, and from him we may date the definite abandonment of conceptions which up to his time had ruled almost without question. He assailed alike the old theory of perception and the old theory of causation, and the result was complete uncertainty as to the ultimate grounds alike of human knowledge and human belief.

Under the name of "mitigated skepticism," he advocates the limitation of our faculties to such subjects as are best adapted to the narrow capacity of human understanding. "The imagination of man," he says, "is naturally sublime, delighted with whatever is remote and extraordinary, and running without control into the most distant parts of space and time, in order to avoid the objects which custom has rendered too familiar to it. A correct judgment observes a contrary method, and, avoiding all distant and high inquiries, confines itself to common life, and to such subjects as fall under daily practice

and experience, leaving the more sublime topics to the embellishments of poets and orators, or to the arts of priests and politicians. While we cannot give a satisfactory reason why we believe, after a thousand experiments, that a stone will fall, or fire burn, can we ever satisfy ourselves concerning any determination which we may form with regard to the origin of worlds, and the situation of nature from and to eternity." [1] The only method of freeing the mind from these useless questions was such an analysis of its powers as would show that it was unfitted to solve them.

No fact in modern literary history, it seems to me, is more remarkable than the revival of the philosophy of Hume. In his own time his influence was not widely felt. The pages of his autobiography are sprinkled with mortifying admissions of the meagre attention awarded to his works at the time of their publication. His ruling ambition was love of literary fame, and this reward, in the direction that he most coveted it, — that of metaphysical inquiry, — he did not succeed in winning. "Never," he says, "was literary attempt more unfortunate than my 'Treatise of Human Nature.'" And years after his death one of his own countrymen, Sir James Mackintosh, says of his system, "Universal skepticism involves a contradiction in terms. It is a belief that there can be no belief. It is an attempt of the mind to act without its structure and by other laws than those to which its nature has subjected its operations. To reason without assenting to the principles on which reasoning is founded is not unlike an effort to feel without nerves, or to

[1] Huxley, *Hume*, p. 55.

move without muscles."[1] And almost in our own day a later historian of philosophy, Morell,[2] writes, "The philosophy of Hume, as a whole, originated and perished with himself. A more partial and less daring skepticism might, probably, have gained many followers; but it is the inevitable result of every system professing universal unbelief to destroy itself." It has been reserved for our own time to assign to Hume a wholly different position in the history of thought, and to recognize him as one whose principles have proved the most fertile seeds in the hot-bed of modern opinion. His skepticism marks one of the great turning-points in modern speculation. His reasonings respecting the question of the existence of God are commended as the single example in our literature, until very recent times, of a passionless and searching examination of that great problem. He is praised for having unflinchingly inquired into the profoundest of all questions, and of having dared to give the result of his inquiries without fear or favor. And, with some criticism of subordinate parts of his system, its strain and method receive unqualified approval from his latest admiring biographer. "One can but suspect," says Huxley, "that his shadowy and inconsistent theism was the expression of his desire to rest in a state of mind which distinctly excluded negation, while it included as little as possible of affirmation respecting a problem which he felt to be hopelessly insoluble."[3]

[1] [Sir J. Mackintosh, "Dissertation," etc., *Miscellaneous Works*, (London, 1846), vol. i., p. 137.]

[2] [J. D. Morell, *An Historical and Critical Review of the Speculative Philosophy of Europe in the Nineteenth Century*, 2 ed., vol. i., p. 353.]

[3] Huxley, *Hume*, p. 155.

Hume's philosophy did not, then, perish with him. On the contrary, of no great English thinker may it be more truly said that he lives in the thought of the present day. His precise conclusions on some points may not be accepted, and in some instances may even be forgotten. Those who applaud his maxims seem not always to remember that he was not less a skeptic in philosophy than in theology, and that if he calls in question the validity of the reasoning by which we seek to establish the divine existence, he just as much throws doubt upon our belief in the invariable order of the universe. It is not his method so much as his spirit and temper that make him so acceptable to the modern mind. He is the recognized prophet of that new dispensation which finds so many representatives in the science and in the literature of the present day; which holds that, respecting the greatest problems and ultimate issues of human life, we have no means of arriving at any conclusions, and that it is the part of wisdom to banish them from sight, and busy ourselves with what lies within our sphere, seeking our highest reward in our own improvement, or in the future growth of the race. There is a passage in one of the letters of Goethe that so exactly reflects this temper that I may quote it here. Writing to Knebel, he says, "The natural sciences are so human, so true, that I wish every one luck who occupies himself with them. They teach us that the greatest, the most mysterious, and the most magical phenomena, take place openly, orderly, simply, unmagically; they must finally quench the thirst of poor ignorant man for the dark extraordinary, by showing him that the extraordinary lies so near, so clear, so familiar, and

so determinately true. I daily beg my good genius to keep me from all other observation and learning, and guide me always in the calm definite path which the student of nature has to tread." His long career was the realization of this ideal. What was sore and and weary in life, what was humiliating in his own experience, he resolutely put aside; neither the wrongs which his own selfishness inflicted nor the woes of his unhappy country could turn him from the "calm definite path" in which he was resolved to tread. To make the most of himself was his constant aim. Closing his eyes to the perplexing problems and tormenting mysteries of life, he dedicated his whole strength to the knowable and the attainable and gave up all wild desire for what lay beyond.

The theory of nescience, or, in other words, the doctrine that the limit of human knowledge is the investigation of the laws of phenomena, and that all inquiry into their ultimate causes is illegitimate, defended with so much acuteness by Hume on purely metaphysical grounds, has derived an immense impulse in our own day from its supposed coincidence with the conclusions of physical science. This is, in fact, the grand characteristic of the speculative thought of the present time. Metaphysics has been transmuted into science, and what was formerly the subtle speculation of abstract thinkers now claims to rest on the positive basis of reasoned truth. As a result, the doctrine has gained a sudden and wide acceptance. It has passed from the hands of the recluse thinker to the lecture platform and the pages of the popular review. The brilliant discoveries of modern science are supposed to be arrayed on its side, and it is presented to the

world in alliance with the most distinctive and most admired intellectual tendencies of modern society. The most eloquent of scientific teachers have uttered this as their final word.

Thus Hume asserted that "what we call a mind is nothing but a heap or collection of different perceptions, united together by certain relations, and supposed, though falsely, to be endued with a perfect simplicity and identity." A modern school, insisting that psychology must be based simply on physiology, have developed this idea, and by bringing mental laws under the more general physical laws of correlation, conservation, and evolution, have deduced the will from nervous force, and have at last reached the startling conclusion that thought, memory, reason, conscience, all that has shaped itself through successive generations in social forms, in art, in philosophy, in religion, many ages ago was latent in a fiery cloud. In this view the human will, no longer free, is reduced to the resultant force of a predetermined organization, transmitted from generation to generation with a cumulative power. The practical conclusion does not differ from that reached by the Scottish philosopher, but the grounds on which the conclusion rests seem to have received from this alliance with scientific results an enormous reënforcement.

Again, Hume threw doubt upon all reasoning from external nature in proof of a first cause. He was logically forced to admit the self-existence of the phenomenal universe. Still he was forced to this admission on purely metaphysical grounds. No scientific data existed in the eighteenth century which could be urged in support of such a theory.

With the physical theories then accepted it may be questioned whether any more satisfactory solution of the complexity and harmony everywhere so conspicuous in the material world was possible than the hypothesis of intelligence. But, in our own time, physical theory has been completely transformed, and to many scientists the doctrine of the self-existence of the universe seems capable of scientific proof. The acceptance of the principle that energy is indestructible, that the amount of force in the universe is never greater and never less, and that the endless transformations of material things are but the shapes this masking spirit wears, supplies us with a theory which renders needless, we are assured, any further inquiry into an ultimate cause. Thus we reach the same practical result that Hume reached, but we reach it in a different way, and science becomes the handmaid of philosophy in teaching that the rational use of our intellectual faculties lies in confining ourselves to the realm of the sensible, and in relegating to the land of dreams all that lies beyond. The doctrine of the relativity of knowledge is held to preclude us from either affirming or denying anything that lies outside the bounds of rigid scientific demonstration. In the words of one of its most eminent representatives, this doctrine teaches "that we have no knowledge of anything but phenomena, and our knowledge of phenomena is relative, not absolute. We know not the essence, nor the real mode of production, of any fact, but only its relations to other facts in the way of succession or similitude. These relations are constant, that is, always the same in the same circumstances. The constant resemblances which bind phenomena

together are termed their laws. All phenomena, without exception, are governed by invariable laws, with which no volitions, either natural or supernatural, interfere. The essential nature of phenomena, and their ultimate causes, whether efficient or final, are unknown and inscrutable to us." [1]

The appalling array of consequences which are involved in the unqualified acceptance of this doctrine cannot be fully realized unless we consider them a little in detail. And, here, let me say that nothing is further from my thought than the wish to cast reproach upon any system of thought by seeking to deduce consequences not fairly involved in it. In philosophical discussion we deal with reasoned truth, and the truth or the falsity of any theory cannot be established by misrepresentation. I have no other purpose than to trace clearly the logical inferences which follow from the acceptance of the proposition that the doctrine of the relativity of knowledge precludes us from either affirming or denying that anything exists beyond the region of investigation which science, in the sense of verifying facts which rest on the testimony of the senses, includes. It will be only necessary for me to sum up the past admissions of some of the recognized representatives of this theory. As we pass through the dreary desert to which they invite us, no rhetorical phrases will be needed to make us more conscious of the fact that we are wandering in a region of desolation and death.

According, then, to this view, the notion that the origin of things admits of being explained by the theory of theism any better than by the theory of

[1] Mill, quoted by Bowen, *Modern Philosophy*, p. 266.

atheism must be dismissed as conspicuously absurd; the argument that the human heart requires a God is invalid, since even could such an inward necessity be demonstrated beyond a doubt, far from proving, it would not even render probable, any corresponding external existence. And if even theistic aspirations are held to point to God as their explanatory cause, the argument could only be admitted when the possibility of any explanation from mere natural causes had been excluded. So the argument from an intuitive belief must be given up, since if the belief were real it would only apply to an individual case, while it is certain that, for the vast majority of the race, such is not the fact. And so far as relates to the argument from a first cause, it would seem that our experience, to which we are indebted for the idea of cause, instead of furnishing an argument for a first cause is repugnant to it, and that the very essence of causation, as it exists within the limits of our knowledge, is incompatible with an absolute and uncaused cause.

Proceeding further, we find that the argument for the divine existence derived from the existence of mind is as little worthy of attention. This argument consists in the reflection that the existence of our own intelligence is the most certain fact that our experience supplies, and one that demands an adequate cause for its explanation, and that such a cause can only be found in some other intelligence. But to this it is replied that there is no warrant for the assertion that mind must be either self-existing or caused by another mind. What we call matter and force are to all appearances eternal, and so far as experience goes, mind is invariably associated with

highly organized matter and distribution of force, and all results of science strengthen the conclusion that the grade of intelligence is invariably associated with a corresponding grade of cerebral development. It is nothing to the point to assert that it is inconceivable that matter and motion should produce consciousness, since the problem confessedly surpasses thought. While, lastly, the argument from the supposed freedom of the will, and the existence of the moral sense, is negatived by the theory of evolution and by the new ethics to which evolution has given birth.

The argument from design, we are further told, affords us no more satisfactory grounds for proving the divine existence, since we have no means of ascertaining the subjective psychology of that Supreme Mind whose existence the argument is meant to demonstrate. Apparent intellectual adaptations are perfectly valid indications of design, so long as their authorship is known to be confined to human intelligence, but when we pass the limits of experience we can argue nothing of any other intelligence, even supposing it to exist. The argument from general laws dwindles to nothing in the face of the doctrine that matter and force have been eternal, and that all and every law follows, as a necessary consequence, from the persistence of force and the primary qualities of matter. For aught that speculative science can show to the contrary, the evolution of all the diverse phenomena of organic nature, of life, and of mind appears to be necessary and self-determined. Human intelligence, but nothing else, has been evolved. And so far as the human mind can see it can discover no need of a superior mind

to explain the phenomena of existence. Man has no kith or kin in all this universe of being.[1]

It is needless to ask what is left when we have reached this result. We have our own thinking selves; but thought is an evolution over which we have no control, our personal consciousness is simply a series of successive sensations and states; we have no responsibility, we can have no relation to an invisible world. Morality and religion are alike empty terms. There is something, indeed, almost pathetic in Mr. Mill's recoil from a conclusion which makes such havoc of the sanctities of life, and in his pleas for a belief in God on the score of utility, even if it does not rest on any conclusive grounds. But the utmost concession to which this school can be brought, is the admission of an unknown and unknowable power lying behind all phenomena. It may be said that in this view science and religion, instead of being hostile, are at one, since they both assume a cause, a permanent and all-pervading force. But under the law of evolution, the recognition of this force will vary with the consciousness of each generation. The so-called religious sentiment will have for its object of contemplation only the Infinite Unknowable. Of it it can only know that it can know nothing.

A recent exponent of this philosophy[2] has sought to modify the doctrine of the unknowable, by developing it into a definite system of scientific theology. This, he assures us, is the most ennobling form of religion that mankind is destined ever to reach. It is represented as a system in which the most funda-

[1] Abridged from J. S. Mill, *Theism*, pp. 62, 102.

[2] [John Fiske, *Outlines of Cosmic Philosophy* (1875).]

mental truths of theism are taught, as necessary deductions from the highest truths of science; a system in which the noblest of our aspirations and the most sublime of our emotions are supplied with a far more worthy and glorious object than has been supplied by any of the older forms of theism. According to this view, on rigid scientific grounds, we must assume "the existence of a power, to which no limit in space or time is conceivable, of which all phenomena presented in consciousness are manifestations, but which we can only know through these manifestations." But cosmic theism, when carefully analyzed, will be found to involve no essential modification of the doctrine of the unknowable; for though the designation of the deity is retained, he is divested of all the attributes which give the designation meaning. We have simply absolute being, devoid of personality, intelligence, and volition.

Such an attempt of one of the disciples of this school to supply a deity divested of all anthropomorphic elements, which linger in the accepted theologies, and in harmony with the latest conclusions of scientific thought, is indeed chiefly interesting as furnishing cogent illustration of the reluctance with which the more thoughtful adherents of this school part with beliefs so endeared to the human heart. Thus, one who asserts, without the least hesitation, "that the hypothesis of mind in nature is as certainly superfluous to account for any of its phenomena, as the scientific doctrine of the persistence of forces and the indestructibility of matter is certainly true," adds the touching confession, "It is with the utmost sorrow that I find myself compelled to accept the conclusions here worked out, and nothing would

have induced me to publish them save the strength of my conviction, that it is the duty of every member of society to give his fellows the benefit of his labors for whatever they may be worth. So far as the realization of individual happiness is concerned, no one can have a more lively perception than myself of the possibly disastrous tendency of my work. And, forasmuch as I am far from being able to agree with those who affirm that the twilight doctrine of the 'new faith' is a desirable substitute for the waning splendor of 'the old,' I am not ashamed to confess that with this virtual negation of God the universe has lost to me its soul of loveliness; and although from henceforth the precept to 'work while it is day,' will doubtless but gain an intensified force from the terribly intensified meaning of the words that, 'the night cometh when no man can work,' yet when at times I think, as think at times I must, of the appalling contrast between the hallowed glory of that creed which once was mine, and the lonely mystery of existence as now I find it, at such times I shall ever feel it impossible to avoid the sharpest pang of which my nature is susceptible. I cannot but feel that for me, and for others who think as I do, there is a dreadful truth in these words of Hamilton: 'Philosophy having become a meditation, not merely of death, but of annihilation, the precept *know thyself* has become transformed into the terrific oracle to Œdipus.

Mayest thou ne'er know the truth of what thou art.'" [1]

These confessions of a calm and acute adherent of the Agnostic school have an emphasis which the most convincing objections of an opponent could never equal.

[1] *A Candid Examination of Theism*, by Physicus (Boston, 1868).

To comprehend the full import of the problem here presented, it is needful to observe that those who shrink from these conclusions of modern Agnosticism cannot justify their position by the view that has been eloquently advocated that this demonstrated impotence of mere natural religion to solve the problem of the divine existence, and of human responsibility and immortality, only brings out in stronger relief the necessity of an authoritative revelation. This easy solution of the difficulty will not stand the test of examination. Such extreme reaction against the results of an irreligious sensationalism is perfectly natural, and has hardly ever failed to show itself at crises when the deepest spiritual sentiments of mankind have received a shock, and the idea of a living God has been lost sight of in that of unconscious nature. Alarmed at what seem the results of rational investigation, this tendency throws discredit upon all operations of reason, and, by boldly turning the enemies' guns, aims to base the authority of revealed truth on this manifest impotence of natural reason to establish any valid and indisputable foundations of belief. The most brilliant illustration of this reaction was furnished in the passionate protest of Lamennais against the sensational philosophy which constituted the speculative factor in the French Revolution. Disgusted with the petty aims which deluged society around him, he sought to force his countrymen into the ark of faith by destroying their confidence in all attempts of reason to solve spiritual problems. The senses, he cried, deceive us; feeling is a continual series of doubts and illusions; reason operates only on data furnished by the senses or feelings, and from these

uncertain data draws the most contradictory conclusions. For man there is no reality either in his own processes or in the external world, there is nothing in which he has any right to believe unless he has some other ground than his own private sentiment, or his own individual consciousness. These extreme opinions are explicitly asserted by few at the present day; yet so far as any definite meaning can be attached to Mr. Mallock's recent solution of the problem, "Is life worth living," it would seem to amount to this: appeal to external authority is the only refuge left us.

But where shall that authority be found?

Shall we make our appeal to a written revelation? But revelation rests on testimony; its authority can only be established by appealing to certain tests independent of itself. Unless every man blindly accepts the traditions in which he has been born, — in which case the claims of one particular class of traditions to be superior to any other could never be established, and the great historic religions of the world would stand side by side on an equal footing,— an appeal must be allowed to reason and to the moral intuitions. Shall we make our appeal to the visible church? But here we come into the presence of a great historical fact, the origin, the nature, the authority of which, all become at once subjects not only of legitimate but of imperative discussion. If we reduce this authority to the authority of universal assent, we have still to ask the question where and how such universal assent is to be found, and thus become at once involved in a maze of inquiries which tax to the utmost our capacity of rational comparison and deduction.

Hence natural and revealed religion must stand or fall together. We cannot, even in the most extreme subjection to an external authority, divest ourselves of an appeal to the moral and intellectual constitution of man. To say, as some devout men have said, that the problems of natural theology are insoluble, and that it is the part of wisdom to retire from a border-land so dimly irradiated by any certain light, is in effect to concede all that modern Agnosticism has claimed. It is equally the surrender of revealed truth and of church authority. I by no means claim that natural and revealed religion are throughout identical, and that we may not owe to revelation truths which the natural reason by no searching could find out; I only mean that the two must correspond, and that natural religion furnishes the fundamental principles by which alone the truth of revealed religion can be certified. If it be demonstrated, beyond a doubt, that the human faculties cannot transcend the limits of the finite and the sensible, that the mind only dreams when it affects to recognize the unseen and the supernatural, the truth of any revelation becomes an idle question.

The distinction between natural and revealed religion is one not easily traced, though we are accustomed to have the terms placed in opposition, as if the relation between them were clearly defined. It seems not unlikely that they designate, after all, not different classes of truths, but simply different methods in which these truths have been apprehended by mankind. What man has ascertained by the unaided exercise of his own powers is termed natural; what he has been brought to recognize through the medium of some assumed supernatural illumination

is termed revealed; but the harmony of all truth with itself forbids us to suppose that, between these two classes of truths, supposing them really to exist, there can be any contradiction, or any lack of perfect correspondence. All truth, from whatever source derived, must be rational truth, though its rational grounds may not be apprehended by the mind, and we cannot resist the conclusion that, with the progressive illumination and enlargement of the spiritual faculties, this harmony of truth will be more clearly perceived, and thus the distinction between natural and revealed truth be gradually done away.

Who, then, can draw the line between natural and revealed religion, as we see them actually existing before us? Who can say where one begins and where the other ends? Look at the most elevated and ennobling modern thought, that boasts its independence of revelation, and yet how many impulses of revealed truth may have unconsciously contributed to give it shape! And study the historical forms of revealed religion, and into them, too, how many elements may have entered that owed their existence to a purely natural source! The wider study of revealed religion has taught us to recognize everywhere the working of natural elements; and in the great tide of social and political and intellectual life around us, we seek in vain to discriminate them. The question of the relation between the two is a question in itself of the highest interest, but one that has no important bearing upon our present subject; for the tendency of thought which we have to investigate is one that stands in antagonism to any recognition of the supernatural in nature or in human life. All question as to the comparative value

of revealed or natural religion fades into nothing before the momentous issue which is here so distinctly presented.

It is superfluous to add the remark that the issue here raised is one that covers the whole of human life, and goes to the very core of human society; for, whatever be our opinion as to the grounds of religious belief, the fact is incontestible that the sense of the supernatural has been in all ages the most potent factor in the development of character; that it has supplied the great ideals of human action; that it has furnished the controlling and sustaining motives in the diversified movement of human life. Whether a great truth, or only a delusion of man's imagination, it has lain at the roots of domestic, of social, and of political relations, and the proud structure of modern civilization is compacted of it. The history of the race, searched out in all its contrasted aspects of brutal force, or of social order, shows no more universal and more unmistakable fact than that the human soul, whether impelled by blind superstition, or impelled by rational instincts, has reposed on the conviction of a supernatural order, and recognized in things seen and temporal the evidences, obscure or distinct, of things unseen and eternal. The literature of nations speaks one voice in its testimony on this point; and what is literature but the expression of the deepest, fullest conviction of the human heart? Let us listen to the supreme singers who have set to music the sovereign thoughts of mankind. Poetry, Aristotle tells us, is more instructive and weighty than history even, because it deals with truth in its universal forms. I have already quoted a passage from Goe-

the in illustration of his purpose to seek inward peace by resolutely shutting his eyes to the great problems of the supra-sensible world; but Goethe, versed as he was in the literature of so many nations, seems strangely to have forgotten that literature in its noblest forms has always dealt with the great problems of life and destiny. It is the perpetual recurrence of these familiar chords that gives the best literature its perennial freshness, and reduces all differences of ancient and modern to a superficial distinction. The sublime strains of Job find their motive in an unappeasable curiosity of man to pierce the darkness that rounds off his little life, and to see himself in his true relation to a universal and eternal order. Revolting from the meagre theory prevailing among the Hebrews of his own time, which saw in human suffering the exact measure and equivalent of human guilt, the soul of the righteous man asserts a larger solution. He seeks refuge in the thought that the disorder and misery which reproach this present system are parts of a plan not yet revealed. So the Greek tragedy hinges on the recognition of man's relation to the supernatural powers. And in him who, more than any other, held the mirror up to nature, we find the constant recognition of the same principle. And, in Shakespeare, this is all the more impressive because of his own ambiguous relation to any definite form of belief. Standing on the water-shed of two great epochs, a new religious and a new political world struggling around him into being, he held himself strangely aloof from either. The splendor of the Elizabethan Renaissance was fading in the solemn presence of the impending Puritan revolution, yet

we search in vain the pages of the great dramatist for any hint of his relation to the questions of his day. For anything he has left us, we should be at a loss to decide whether he was Catholic or Protestant. The party questions discussed around him have left no mark on the great creations of his genius. We are wholly in the dark as to his positive belief. "To die" is to go "we know not where."[1]

But when he uncovers the springs of human action, when he sounds the depths of human nature, when he unravels the workings of human conscience, when he draws man in his most hidden moods, in his most anguishing experiences of doubt, of terror, of remorse, he makes him walk along a path that derives all its mystery and meaning from its suggestion of the supernatural. To be, or not to be, may remain an unsolved enigma, yet conscience cannot throw off the dread of something after death. Hamlet holds us, not as a son, not as a lover, but as one brought suddenly abreast the dark mystery of existence. What links him so strongly to our sympathies is the fact that he forgets little Denmark, and becomes suddenly akin to all his kind. He rises from the concrete to the abstract, and not one ghastly crime alone, but the troubled order of the world is what fills his gaze. He is irresolute, not from lack of will, but because his mind lies all abroad. He can avenge his father's murder, but what will be the good of it? There runs through all his greatest dramas this sense of man's kinship with the infinite and eternal. Thus in Macbeth it is not the death of the victim, but the remorse of the murderer, that stands out; not that Duncan sleeps, but that Macbeth shall sleep no more.

[1] [*Measure for Measure*, Act iii., Sc. 1.]

I have allowed myself this digression not for the purpose of advancing any argument in favor of belief in the supernatural, for that belongs to a later stage of our discussion, but simply for the purpose of making as plain as possible, at the outset, the gravity of the questions which we are about to consider. I wish to show that, while the definite problems of natural theology are the same to-day as in the days of Socrates, or that while in a sense, it is true, as Macaulay urges, that natural theology is not a progressive science, and that the early Greeks had precisely the same evidences, in the structure of the universe, of the existence of a Supreme Being, or of the immortality of the soul, that lie before an observer of the present day, still the aspects of the discussion have been essentially changed. Doubts which, at the outset, were purely speculative, have been transferred to the domain of reasoned truth, and the ascertained principles of the physical universe have been summoned with decisive effect to the solution of metaphysical problems. The validity of this process involves questions which the ancient thinkers were never called upon to consider.

And while new factors have thus been introduced into the problem, the problem itself, through the growth of modern civilization, has gained a new import. Modern life owes its distinctive character to its strongly emphasized sense of man's relation to a supernatural order. This, more than anything else, marks the contrast between modern life and "the most high and palmy state of ancient society." Modern civilization, in every aspect in which we consider it, confesses the operative presence of a power which the ancients, at best, only dimly recognized. In

domestic and social life, in laws, in literature, in poetry, in art, we cannot miss it. The import of life has been everywhere measured by its recognized relation to spiritual and immortal destinies. Hence, while in many points the problem of human existence may seem to-day the same that it seemed to the ancient world, yet in the momentous issues involved in the problem it is not the same. The surrender of faith in the supernatural involves vastly more for us than it involved for them. For them it was the loss of a castle in Spain, for us it is the loss of a heritage around which the most hallowed memories of life are clustered.

It is wholly impossible to measure the revolution that would be caused in modern society by a general renunciation of faith in unseen things. No revolution that has ever taken place in the world's history can be likened to it. It would be a revolution affecting man in all his conditions of development, in all his relations to his fellows, in all his habits of thought, all his motives of action, all his ideals of conduct. Where it would land him no reasonings drawn from other ages, or other conditions of society, would enable us to predict. Those who look forward with complacency to such a result have appealed to some of the eastern religions in proof of the fact that powerful creeds have flourished "which have omitted all that makes the doctrine of a future state valuable in the eyes of its supporters," and "systems of pure human ethics may be found divorced from the existence of God," but we cannot reason so easily from eastern to western results of thought. The doctrines of Buddhism are profoundly mystical in their character, and owe their popular

success to maxims which the scientific unbelief of Europe expressly repudiates. It is true that Buddhism, like modern agnosticism, repudiates any personal God, and any conscious immortality. So far they would seem to be precisely alike. Yet we cannot reason from the effect of such a creed on an inactive, contemplative race, profoundly impressed with the misery of life, and reckoning annihilation the supreme boon, to its effect on a society full of energy and action, resolute in the accomplishment of great aims, prizing life, and eager to put its opporunities to the highest use. Western civilization is instinct with convictions and with hopes respecting human life and human destiny that, as far as we can see, have never stirred the drowsy East. To have all these snatched away is not to unite us to the passive mysticism of Oriental society, but to launch us on a wholly new experiment. Such is the vast import of the problem with which we have to deal. We have to look at it in aspects which were never even suggested to ancient thinkers, and we have to approach it with a sense of its momentous and far-reaching consequences such as the most penetrating intellect among them could never have realized.

I have termed the following lectures a discussion of the theistic argument rather than a discussion of theism, because what I have in mind is not theism, meaning by that belief in the existence of a Supreme Being, but simply the intellectual or rational grounds upon which such belief may be based. Theism, considered as a temper or attitude of mind, has its origin in many sources. There are very few, if there are any, with whom belief in God is simply the result of logical conviction. In the actual shape

in which this belief sways so many souls it is the result of all the forces by which human character is fashioned. It is a conviction springing from spiritual needs, determined by training, sanctioned by tradition. Its practical and governing power has very little to do with the controversies that have raged respecting it. It is a conviction cherished as part of their own being by countless multitudes, who have never asked themselves on what ground it should be received. But I propose to confine myself strictly to its rational grounds, and to seek to ascertain to what extent these have been modified by recent scientific theories.

And, without anticipating my argument, I may permit myself to say that the aim of this discussion will be to show that the rational grounds on which belief in the existence of a Supreme Being must be rested, have not been essentially modified by modern thought. No doubt the most profound alteration of scientific opinion in our time is connected with the doctrine of evolution, in its wide-spread application to physical and moral phenomena. With the various forms of this theory we shall have most to do in the evenings before us. In the conclusions that have been deduced from this theory, the most formidable antagonism to faith in the supernatural, is supposed to lie. But, if I do not wholly fail of the end I have in view, I shall show you, before we conclude, not only that this theory stands in no necessary antagonism to the doctrine of theism, but that the view of nature, and of natural operations which it enforces, has some striking points of harmony with the truths not only of natural but of revealed religion. That it results in atheism is a wholly groundless and gratuitous assumption.

With a single additional reflection I close these introductory remarks. We have heard much said, in recent days, of the pursuit of truth for its own sake, and surely no pursuit can be nobler, no pursuit can be more alluring to an eager and ingenuous mind. To throw away all lesser considerations, to forget ourselves even, and all that relates merely to our own personal welfare, in the unselfish search after undiscovered principles, to cast every weight of mere private interest aside as we climb the lofty summits that lift themselves before our enraptured gaze, — what more worthy temper than this can befit the sincere seeker after truth? Is not the pursuit of truth, without regard to consequences, our highest duty? Should not truth be independent of feeling, independent even of hope? Will not the genuine worshipper press on in whatever path opens before him, "with his eyes open, with his head erect." "To be strong and of good courage," we are told, is our only watchword. We are bound by the laws of ou · intellectual being to honest inquiry. With the possible consequences of this inquiry we have no concern. In courageous search alone the soul finds its highest function and its best reward.

It may be doubted whether this is true. It may be most seriously questioned whether the highest truth should be thus sought in the interest of mere intellectual curiosity. This rule may suffice when we seek for truth in some of its more definite and limited forms. The mathematician who sets out to solve an equation, needs only to have his mental parts alert. The chemist may trust his mere intellectual faculties when applying his tests. Emotion, passion, sympathy, have no place in such restricted fields. But

the maxim fails when we study the more mysterious and far-reaching problems that cover the whole nature and destiny of man. The temper proper to mere scientific inquiry will not suffice us here. Logic leads us up to a certain point, but at this point it leaves us in the lurch. The motives proper to scientific investigation by no means include all the legitimate impulses to inquiry. "After all," says Cardinal Newman, "man is not a reasoning animal: he is a seeing, feeling, contemplating, acting animal." And in the pursuit of the highest truth not one faculty, but all faculties need to be enlisted.

And even were it possible thus to pursue the highest truth as a mere exercise of the intellect, and to separate the search after it from all consideration of consequences, it may be still more doubted whether our progress would be helped by it; whether the mere intellect, could it be divorced from the other faculties, would be any more trustworthy in its operations. It by no means follows that in the sphere of spiritual truth the mind is at its best, and that its conclusions are most to be relied upon, when left thus solitary and naked, like Adam before the creation of Eve. In its perfect state the intellect needs to be wedded to the moral sense. It is an old maxim that "wonder is a highly philosophical affection," and no one who recognizes the fact that man's nature is a unit can for a moment doubt that his faculties are at their most perfect play when this mutual adjustment is most complete. In other words, the highest rational state must be at the same time a moral state, so that the maxim is unquestionably sound that faith, in its best analysis, is an eminent act of reason, and that reason finds its normal completion in faith.

I am well aware that some recent writers are fond of insisting on the distinction between what they term the objective and the subjective methods, and that the great superiority of later over earlier inquirers is to be attributed to the fact that they have learned to confine themselves rigorously to the former, in other words, that they have learned to look at truth as wholly independent of themselves, and to study it purely for its own sake. Without raising the question whether this be the fact, and whether modern investigators, as a class, show that they are thus exempt from human passions, I venture wholly to doubt whether such purely objective methods would furnish the means by which the highest merits of thinking can be secured; whether a spirit of inquiry, thus emptied of the universal interests and emotions which belong to man, not merely as a thinking and reasoning, but as a feeling, hoping, believing being, can supply the highest and most earnest impulses to inquiry. Surely the whole history of the race is proof that man has been impelled to his most earnest searchings after truth not by mere intellectual, but always by moral impulses.

And on this point I am glad to appeal to the support of one who will not be suspected of any excessive bias in favor of religious truth, but whose statements relating to it are singularly clear and accurate: "Curiosity determined by natural sentiments and emotions," says the late Chauncey Wright, "subjective curiosity, is the cause of a culture coextensive with civilization, long preceding the growth of science, and constituting all that is peculiar to civilized life except the material arts. However meanly the conclusions of theological and metaphys-

ical operations may appear, when tried by the objective standard of science, they, too, have their superiorities, by the test of which science becomes in turn insignificant. Unverified conclusions, vague ideas, crude fancies they may be, but they certainly are the products of activities which constitute more of human happiness and human worth than the narrow material standards of science have been able to measure." [1]

After these striking words, I do not shrink from expressing my own conviction that the benefit which every one of us may derive from the following discussion will depend very largely on the temper of mind with which we approach its solemn themes. We shall discuss mysteries which have perplexed the wisest thinkers; we shall deal with questions which lend our human lives all their meaning and value. We shall only deceive ourselves if we think there are no difficulties in the path we have to climb. It is impossible to separate our inquiry from issues so vast. I repeat, with added emphasis, what I said at the beginning, that the problems before us are not problems of philosophy, but problems of life. We are not idly gazing at a landscape, pleased for the moment with its alternate play of light and shadow, but we are pilgrims treading a path where a false step may ruin our most cherished hopes. To profess indifference to the result is to give the lie to the finest instincts of our nature.

[1] *Philosophical Discussions*, pp. 51, 52.

LECTURE II.

THE RELATIVITY OF KNOWLEDGE.

PERHAPS some who are present here this evening can remember when a famous lecturer stood forth, in this very city, to vindicate the new views, which, more than a generation ago, were provoking so much discussion. These views, he declared, were not new, but the oldest of thoughts cast into the mould of a new time. In the style which marked him as a consummate master of the highest of all arts, — the art of using our mother tongue, — he portrayed the two great schools into which the thinking men of every age have been divided. These two schools were the materialists and the idealists: according to the first, all our knowledge is founded on external experience; according to the second, the source of knowledge must be sought in the soul itself. The first makes the starting-point of thought the impressions made on the senses; while the second claims that the thoughts which enable us to classify and arrange the impressions on the senses must be traced to a source which the senses cannot affect. To the first, the world of fact is the only real world; while the second insists that only in the world of ideas do we come in contact with the true, the absolute, the eternal. To the enthusiastic hearers, who drank in his honeyed words, the speaker seemed the prophet of a new dispensation; and the disciples of his gospel

confidently pictured a near time when the ideal would be recognized as the alone real, when the standard of measurement would be found in the mind itself, when society, government, art, religion, would be estimated solely with reference to this, and all the teeming activities of life be viewed as an endless stream flowing from this invisible fountain. Even the moral code would find here its springs. This inner life was a law unto itself; man was best when allowed the largest liberty. The mind fashioned its circumstances; if its thoughts were changed they transformed its conditions. The best that could be asked for man, was that this spiritual principle in him should be suffered to work itself out. In the creed of the new school the first place was given to the intuitions. Hence it hastened to avow its belief in the supra-sensible; the soul, it affirmed, could come into direct contact with the invisible; and was open, at all times, to the influx of the All-knowing Spirit.

The sage who preached this ideal philosophy with so much applause, still lives among us, but the times have changed. The age of the transcendentalist is gone, and the age of the scientist has come. The eager thought of the time no longer expends itself in the shadowy region of the intuition, but follows the pathway of clearly ascertained fact. Instead of ravishing itself with immediate visions of the absolute, it denies that the absolute, even conceding its existence, can become a legitimate object of reflection. The new age, so confidently heralded by the prophets of a generation back, has not dawned. Experience, instead of holding a subordinate place, has been in turn raised to the chief rank; and philosophy,

no longer seeking to lay its foundations in regions not subject to the illusions of sense, makes its boast, not only of regarding sense as the starting-point, but of excluding any other source of knowledge. Mind is no more a self-subsisting centre of energy and life, but is reduced to a series of sensations, conditioned in all its action by its physical surroundings.

Let me not seem to confound the coarse materialism which Emerson had in mind, with the subtle theories of physical force with which we are familiar. In our day materialism has assumed a new meaning, and in the conception of an indestructible and ceaselessly acting energy, underlying the phenomena of the external world, we seem to have the dividing line between the material and the spiritual almost wiped out. A conception of matter which insists upon recognizing in it the "promise and potency of all life," which tells us that in the nebulous gases, of which the worlds were formed, there lay latent all that afterwards worked itself out in "Hamlet," in "Paradise Lost," in the "Principia" of Newton, is evidently a conception very unlike that against which the transcendentalists protested; but so far as relates to the question of the limitation of human knowledge, the issue remains unchanged. The old problem, which the transcendentalists so confidently solved, still stares us in the face, — the problem whether we have any certain knowledge beyond that derived, either directly or indirectly, from experience; and whether, from the things that are seen, we can argue with any assurance to the things that are unseen.

To understand clearly the position of the school

which now prevails, we must bear in mind the greatly extended meaning given to the term experience. The so-called experiential method by no means restricts itself to the enumeration of particulars, and classification of sensations, which was included in the old empiricism. The range of what is known is extended far beyond what is simply seen and felt. Not only the direct impressions upon the senses, but the indirect representations, in other words, the inferences from the impressions of sense which are capable of being verified by rigid scientific method, are all included within its legitimate scope. And not only the experiences of the individual, but the accumulated and transmitted experience of the race, organized in language, condensed in axioms, the inherited habits of apprehending truth attested in the whole history of man, all this varied, multiplied, constantly augmenting product, goes to swell the vast aggregate to which the term experience is now applied, and to constitute the subject-matter from which the results of thought may be logically deduced.

Or, stated more precisely, "whatever conceptions can be reached through logical extensions of experience, and can be shown to be conformable with it, are legitimate products, capable of being used as principles for further research." [1]

On the contrary, whatever lies beyond the limits of experience, and claims another origin than that of induction or deduction from clearly ascertained facts, can never be the proper object of scientific research, and can result only in vain strife of words. Science, in short, deals with things and their rela-

[1] G. H. Lewes, *Problems of Life and Mind*, 1st Series, vol. i., p. 16.

tions as they are known to us, or as their existence is logically inferred; beyond this line we plunge into that "vast Serbonian bog" where "armies whole" of metaphysicians have floundered and sunk; we deal with things and relations not known to us; we substitute for the constructions of science the constructions of the imagination. Yet, with this great extension given to the meaning of the term "experience," the problem remains precisely as before: how do we pass from thought to being? what ground of assurance have we that the intellectual process within us has a corresponding reality without?

Can we pass outside the limits of our own experience? This is the problem that stares us in the face at the threshold of our inquiry, and unless we can reach some solution of this, any further investigation will be idle. On this the foundations of natural religion rest; for if we are shut up to the creations of our own thought, if we have no means of ascertaining whether anything exists outside ourselves and independent of our own mental processes, religion is reduced to mere delusion. It does not matter with what rigorous scientific method we pursue our investigations and deduce our inferences; it does not matter with what imposing array of attributes we clothe the ideal construction of our thought; if we cannot rest, at last, on the firm conviction of a corresponding reality, all our labor and pains will be thrown away. In the strict and proper sense, we are directly cognizant of no facts but facts of consciousness. Our inner experience is the starting-point. Reasoning from what we have given here, how far may we push our conclusions into the sphere outside ourselves? This is the first question.

It is evident that the problem is precisely the same, whether we speak of the world of matter or the world of spirit. Of neither have we any direct and immediate knowledge. Of neither can we demonstrate the existence in the sense in which we demonstrate the truths of mathematics. They lie outside ourselves, and any assumption that we make about them only lands us in manifest absurdity. No conception seems at first sight more simple than that of matter. No child doubts for a moment what his senses report respecting it. But are all the parts of a seemingly solid body in actual contact? We need only to call to mind that every portion of matter is compressible, to be forced to the admission that the molecules of which matter is composed are separated from each other by tracts of empty space. But are these atoms divisible or indivisible? If we assume the former, we are confronted with the infinite divisibility of matter; if we assume the latter, we have an indivisible atom; and, in either case, we have a conclusion which baffles human comprehension. We deal with a problem which involves us in endless contradictions.

The principle of the relativity of knowledge is asserted as one of the best established conclusions of modern psychology. We reach it, we are told, not only from actual experience, of our inability to conceive either of matter or spirit, but from an analysis of our own mental processes. What do we mean when we say that we know any given fact? Do we mean more than that we have perceived either its likeness or its unlikeness to similar facts which we have previously investigated. In other words, things are known only by being classified; and what we

cannot classify remains for us in the realm of the unknown. A thing is perfectly known only when it is in all respects like things previously observed; and when it has no attribute in common with anything else it must be absolutely unknown. Or, if we view the process under a different but correlative aspect, and recognize not likeness, but unlikeness, we are brought to the same result. To be conscious, we must be conscious of something, and that something can only be known as that which it is by being distinguished from that which it is not. Thus all knowledge is possible only in the form of a relation.[1]

In itself considered, this principle settles nothing as to the limits of human knowledge. It does not determine how far the mind may push its inquisitive search into the region of the unknown, but simply declares that as far as the mind goes it must follow a certain method. It does not affirm that we can know nothing of the Absolute, but only that the Absolute must be revealed to us under the conclusions and limitations of our own consciousness; it does not say that the universe around us and above us must remain inscrutable, but simply that the universe can be known to us only in accordance with the laws of our own spiritual nature. To other beings, constituted in a different way, it may be disclosed in wholly different aspects, but to us it can be made known only under the conditions of our human consciousness. In other words, when we affirm the relativity of knowledge we simply affirm a method, we do not fix a limit. How far the mind, while recognizing this condition, may legitimately go, is a problem that remains still to be decided.

[1] Fiske, *Cosmic Philosophy*, vol. i., p. 14.

But, with this principle established, that we cannot directly know anything save modifications of our own consciousness, what grounds have we for believing in the existence of anything external to ourselves? This was the problem with which Berkeley grappled; and there is a sense, Mr. Mill truly says, in which all modern philosophy may be said to date from the good Bishop, to whom Pope ascribed "every virtue under heaven." His theory of vision is perhaps the most important contribution made to the science of psychology in modern times. When first published it appeared so novel and impossible that it was scouted as a paradox, but it is now accepted by every scientific school. Briefly stated, it amounts to this, that there is no resemblance whatever between the visible and tangible qualities of things, and that, without the aid of our other senses, our eyes could not inform us that anything existed outside ourselves. The mind invests the colors and gradations of light and shade with the various modifications of size and shape, and disposes them at appropriate distances, so that in fact we learn to see precisely as we learn to walk. Common experience shows us that what we call seeing is in reality a complicated act of judgment. It is not the eye, but the mind, that sees.

While the researches of modern physiologists have not affected the truth of Berkeley's theory, they have set it forth in a still more striking light. For we now know with certainty that it is not the image formed on the retina that the mind perceives, but that the physical process of vision must be traced much farther back. The eye simply receives and measures the impressions made on it by the waves

of light, precisely as the thermometer and the barometer measure and register meteorological phenomena. Its function is merely to collect the data out of which vision is constructed. The image formed on the retina is not transmitted to the brain. What is sent is simply the sensation excited. Innumerable waves of nervous energy are rolled inward to the next intercranial station (the *tubercula quadrigemina*). Here is the centre of the sense of sight, though not of the highest form of vision. The optic tubercles take up the process of vision where the eye leaves it, and elaborate and coördinate visual impressions. We pass to a third station (the angular *gyrus*), before we reach the true sphere of vision. Here, deep in the recesses of the brain, the sensations, transmitted through all the curious apparatus we have described, are first brought into direct relation with the mind.

The line of thought so acutely followed out in his theory of vision was what led Berkeley to doubt the existence of a material universe. For, if the world of sight is a phantasm, and exists only in the mind, what reason have we to suppose that the world reported to us by the sense of touch has any real existence outside ourselves? Only with regard to this one of the five senses can the question be ever raised. Sight, as we have seen, primarily tells us nothing, and the same may be asserted, without hesitation, of hearing, smell, and taste. They are simply effects produced on the mind, and of the causes which produce them we know nothing. So far as we can see, the nature of the effect depends far more on the constitution of the thing acted upon than on that of the thing acting. Only the sense of touch remains, which seems

to connect us with an external world. But all that touch reveals is muscular resistance. For aught that we know, or ever can know, what we call matter may be only the regular and uniform manifestation of force, and of force we only know that which is the result of mind. Hence Berkeley inferred that the orderly and uniform phenomena of the external world were simply manifestations of an omnipresent mind.

Berkeley does not deny; on the contrary, he strongly affirms the uniformity of nature and the universal reign of law. "That what I see, hear, and feel doth exist," says he, "that is to say, is perceived by me, I no more doubt than I do of my own being."[1] What he denied was the existence of an unknown something, lying behind phenomena, without sensible qualities itself, but capable of exciting the impressions of those qualities in the mind of the beholder. In thus reducing matter to force, and then regarding force as nothing but will, the virtuous prelate strangely anticipated some of the most recent results of speculation. As he sat on "the hanging rocks" and gazed at the fair shore where Channing afterwards wandered, he revolved the principle which Schopenhauer in our own time has rendered so familiar. But evidently this does not solve the problem, whether we can know anything of an external world. It assumes that this world has no existence, and this cuts but does not untie the knot. Accepting Berkeley's theory, we are shut up to one of two alternatives, either that the modifications of consciousness in the mind are determined directly

[1] [*Principles of Human Knowledge*, P. i., 40 (*Works*, ed. Fraser, vol. i., p. 175.]

by the will of God, or that they are created by the mind itself. Berkeley chose the former, and in so doing, as he supposed, rested religion on its firmest basis.

Himself a devout believer and writing in the interest of religion, Berkeley paved the way for skepticism. He had shown that we have no experience of anything outside ourselves independent of perception; he had discarded the material universe as a figment of the imagination. Hume took up the discussion at this point, and turned the guns from the world without to the world within. If matter was merely a figment, what reason was there to suppose that mind was more than a figment also? If it was unnecessary to infer the existence of any hidden something as a basis for material phenomena, why was any hidden something necessary to explain the phenomena of mind? In the external world, all that we have any experience of is impressions. In the inner world, all that we have any experience of is states of consciousness. In either sphere the existence of anything beyond is a simple inference; and what reason have we for making this inference in the one case more than in the other. Matter is an aggregate of impressions, mind is but a succession of impressions. Thus, by a single step, idealism was converted into skepticism. Respecting the real nature of things we know absolutely nothing.

It was precisely at this point that Kant grasped the problem. To determine whether we have any other source of knowledge than that given in experience, was the professed aim of the critical philosophy. Like Locke, of whom he appears as the successor and rival, the German philosopher undertook

"to inquire into the origin, certainty, and extent of human knowledge;" and as a means to this he sought to make a critical examination of the human mind, an accurate analysis of its principal cognitions and ideas. Hence the designation adopted for his system. His aim was to mediate between the school of intuition and the school of experience. Yet he does not compare the doctrines of those rival schools, but opens for himself a wholly new path. Giving up any consideration, at the outset, of the problems so long and so fruitlessly debated, he sought to go further back and make mind itself the subject of his inquiry. On account of the new method which he thus adopted, he likened himself to Copernicus, who finding that the motions of the heavenly bodies could not be explained by supposing the firmament to revolve round the earth, reversed the whole theory of the solar system. "Mind," he declared, "does not derive its primitive cognitions from nature, but imposes them on nature."

On interrogating consciousness, Kant satisfied himself that neither of the explanations that have been given could account for the phenomena presented. On the one hand, the mind has a class of abstract ideas, — as of time, of space, of cause, — which could not be resolved into experience alone; but, on the other, they could as little be regarded as absolutely independent of experience, since they are simply the necessary conditions of experience. There are not, therefore, two sources of knowledge, the intellect and the external world, but knowledge is the union of the two. All knowledge begins with experience, for the faculty of cognition can be awakened into exercise in no other way than by means of objects

which affect the senses, and, by rousing the powers of understanding into activity, convert the mere raw material of the sensuous impression into that recognition of objects which is termed experience. But it does not follow that all knowledge arises from experience, for it is possible that even our empirical knowledge may be the result of that which we receive through the senses, and that which the faculty of cognition supplies. Against Locke, the German philosopher sought to prove that we have ideas independent of experience; and, against Hume, that these ideas have a necessary and universal character.

The great problem which the critical philosopher undertook to solve, as expressed in Kant's own phraseology, was the question, "How are synthetic judgments, *à priori*, possible?" What he means is this: All our judgments may be divided into two classes, analytic and synthetic. An analytic judgment is simply a definition, as when we say that a triangle has three sides. This statement is simply explicative; it adds nothing to our knowledge. When, however, we predicate some attribute of a thing not involved in the conception, as that iron is hard, we express an additional truth, and have a synthetic judgment. Synthetic judgments, when derived from experience, are *à posteriori*, as that sugar is soluble. But are there any not derived from experience? Hume declared that our ideas of cause and effect are simply the result of an experience of antecedence and consequence. But Kant replied that, in the mere fact of antecedence and consequence, the idea of causation was not given. But, as it is irresistibly believed in, it must have

some source. If this source cannot be found in experience, it must have a necessary basis in the understanding. We are, therefore, brought to recognize the validity of synthetic judgments *à priori*.

At first glance we seem to have reached the shore, and to be planted on a rock, from which we can survey with complacency the frail barks of former systems tossed helplessly on an unresting sea. But a closer examination shows that the critical philosophy has not solved the problem of human knowledge. We have found, indeed, that mind does owe something to sense-experience, and that what it adds has the characteristics of certitude and universality, which experience can never claim. Still, the great question, whether we have ideas that are true independent of ourselves, remains unanswered. These necessary conditions of thought are purely personal. They are applicable only within the field of experience, and if pushed beyond it only lead to delusion and error. According to Kant, even space and time were only forms of human perception, and not modes of real existence. They are universal and necessary conditions of all experience, but have no reality beyond. For the very reason that they exist in the mind, as forms of intuition, they cannot exist out of it. While he did not deny the existence of an external world, he affirmed that its existence could not be proved.

In spite, then, of his decided antagonism to Hume, Kant must be regarded as equally the precursor of the doctrine of relativity. He taught that every hypothesis which we can frame respecting the Infinite, the first cause, or the ultimate essences of things, must inevitably commit us to contradictions. He

showed from a psychological analysis that the necessary coöperation of two factors, in each act of cognition, rendered any knowledge of the external world, as it really exists, forever impossible. And though he conceded that the existence of an external world was a necessary postulate, yet this existence was only logically affirmed. Any attempt to transcend the sphere of consciousness, he declared, was hopeless; as well might the bird, when feeling the resistance of the air, wish that it were in a vacuum. Where Kant differed essentially from Hume was in asserting the veracity of consciousness. Here he found the basis on which to build religion and morals. Reason is wholly incompetent to the task of demonstrating that the world exists, or that God exists. But there is another certitude besides that derived from demonstration. That the world exists, that God exists, are irresistible convictions.

With this brief review of phases in the history of thought, perhaps familiar to most of you, we are in a position to understand the position of the present school of experience represented by Mr. Herbert Spencer. To this school the term Positive is commonly applied, but in its latest modification it departs essentially from the so-called Positive Philosophy as expounded by August Comte. Starting from the postulate of the relativity of knowledge, the French philosopher affirmed not only that all knowledge comes from experience, but that, in its utmost development, it could not go beyond this line. In effect he reduced philosophy to a physical science, and denied that there was any mode of verifying truth save that which the physical sciences supply. One method must be followed in all inves-

tigations, whether the investigations relate to physics, to psychology, to ethics, or to politics. Hence the contempt which Comte expressed for metaphysics as concerned with questions which lay outside the limit of scientific study. Hence his famous doctrine of the three stages, in which theology and metaphysics were represented as mere stepping-stones of humanity to positive philosophy.

The attitude of positivism with regard to the great problem whether any reality existed behind the phenomena recognized by the senses was not explicitly defined by Comte; he simply dismissed the question. In his recent English representative, John Stuart Mill, we find substantially the same treatment of the question. In his essay on Berkeley he says that we owe to that philosopher "the discovery of the true nature and meaning of the externality which we attribute to the objects of our senses; that it does not consist in a substratum supporting a set of sensible qualities, or an unknown somewhat, which not being itself a sensation gives us our sensations, but consists in the fact that our sensations occur in groups, held together by a permanent law, and which come and go independently of our volitions or mental processes."[1] Hence the existence of an unknown reality behind phenomena is not denied, but is left an open question. Hence it appears that the positive philosophy, refusing to deal with anything beyond the sphere of experience, simply preserves a non-committal attitude with regard to the question of any absolute existence. Any attempt to solve this problem it contemptuously scouts as a task in which only children can take an interest.

[1] [*Three Essays on Religion* (New York, 1874), p. 263.]

Precisely at this point the line is drawn between the school of Mill and the school of Spencer. For it is the characteristic of the latter that in opposition to idealism, and to positivism alike, it unhesitatingly affirms the existence of this absolute reality. Starting from precisely the same point of the relativity of knowledge, denying that we have direct knowledge of anything but sensible impressions, reducing consciousness to a series of successive states, holding much in common with the positive philosophy, it affirms that by a strict process of scientific reasoning we may reach the result that something real and absolute exists behind the phenomena presented to the senses. It affirms this conclusion, not, it is true, on the old ground, but as the only conclusion consistent with that enlarged and systematized experience, to which alone should be given the name of science. It not only refuses to admit the legitimacy of the inference drawn by the idealist that the unknown reality beyond consciousness does not exist, but affirms positively that the doctrine of relativity cannot be intelligibly stated without postulating the existence of this reality.

The grounds for this departure from the positive philosophy may be briefly stated thus. Although we have no experience whatever of this absolute existence in itself, we have an experience of the mode in which we are affected by it. This experience generates in us a fixed order of conceptions. And since we are thus possessed of a subjective order of conceptions wholly independent of our volition, we have the strongest possible warrant for believing that this inner order corresponds to the outer order of phenomena. Or in other words, "when any

given order among our conceptions is so coherent that it cannot be sundered except by the temporary annihilation of some one of its terms, there must be a corresponding order among phenomena." Or, to put the principle in still a different form, "perfect congruity of experience must generate in us belief, of which the component conceptions can by no mental effort be torn apart." The result which we thus reach is a reasoned realism, the fundamental theorem of the most recent form of the experience-philosophy. It may be defined as a synthesis of scientific truths in a universal science dealing with phenomena as manifestations of an absolute power.

Let us quote the language of Mr. Spencer himself. "One of two things must be asserted: either the antecedents of each feeling, or state of consciousness, exist only as previous feelings or states of consciousness; or else they, or some of them, exist apart from, or independently of, consciousness. If the first is asserted, then the proof that whatever we feel exists relatively to ourselves only, becomes doubly meaningless. To say that a sensation of sound and a sensation of jar cannot be respectively like their common antecedent because they are not like one another, is an empty proposition, since the two feelings of sound and jar never have a common antecedent in consciousness. The combination of feelings that is followed by the feeling of jar is never the same as the combination of feelings that is followed by the feeling of sound; and hence, not having a common antecedent, it cannot be argued that they are unlike it. Moreover, if by antecedent is meant constant and uniform antecedent (and any other meaning is suicidal), then the proposition that

the antecedent of sound exists only in consciousness, is absolutely irreconcilable with the fact that the feeling of sound often abruptly breaks in upon the series of feelings otherwise determined, when no antecedent of the specified kind has occurred. The other alternative, therefore, that the active antecedent of each primary feeling exists independently of consciousness, is the only thinkable one. It is the one implicitly asserted in the very proposition that feelings are relative to our own natures; and it is taken for granted in every step of every argument by which this proposition is proved."[1]

"Hence our firm belief in objective reality, a belief which metaphysical criticisms cannot for a moment shake. When we are taught that a piece of matter, regarded by us as existing externally, cannot be really known, but that we can only know certain impressions produced on us, we are yet, by the relativity of our thought, compelled to think of them in relation to a positive cause — the notion of a real existence which generated these impressions becomes nascent." "The momentum of thought inevitably carries us beyond conditioned existence to unconditional existence." At the same time that by the laws of thought we are rigorously prevented from forming a conception of absolute existence, we are by the laws of thought equally prevented from ridding ourselves of the consciousness of absolute existence; this consciousness being, as we have seen, the obverse of our self-consciousness."[2]

But this affirmation of the existence of an absolute reality, independent of the series of changes

[1] *Principles of Psychology*, i. 209.
[2] *First Principles*, pp. 93, 96.

which constitutes our consciousness, is made with important limitations. If we ask for a more precise definition of what it means, we are told that we cannot identify this absolute existence with mind, since what we know as mind is nothing more than a series of phenomenal manifestations, not an occult reality, but simply a group of thoughts and feelings. Nor can we any more identify this absolute existence with matter, since what we know as matter is also but a group of phenomena perceived by the senses. Absolute existence, which exists independently of us, and of which mind and matter are the manifestations, cannot be identified with either. Thus idealism and materialism are equally set aside. And, since the relations of difference and no-difference, under which we are compelled to do all our thinking, are subjective, we cannot say that there exists independently of consciousness any reality to which these apply; we cannot conceive of absolute existence even as single being. We can simply affirm the fact of absolute existence; the nature of that existence remains inscrutable. We have only an unknowable reality, of which all phenomena are knowable manifestations.

Like the positive philosophy, the system of Mr. Spencer rejects as futile all ontological speculation; like the positive philosophy, it professes to make a rigorous use of scientific method, but it reaches a result from which the positive philosophy recoils. And this result it does not hesitate to assert in the interest of religion. "The certainty," says Mr. Spencer, "that, on the one hand, such a power exists, while, on the other hand, it's nature transcends intuition and is beyond imagination, is the certainty towards

which intelligence has been from the first progressing. To this conclusion science inevitably arrives as it reaches its confines; while to this conclusion religion is irresistibly driven by criticism. And satisfying, as it does, the demands of the most rigorous logic, at the same time that it gives the religious sentiment the widest possible sphere of action, it is the conclusion we are bound to accept without reserve or qualification." And then, having, in reply to Mansel, declared that duty requires us neither to affirm or deny personality of this Absolute Unknown, but submit ourselves with all humility to the established limits of our intelligence, he adds: "This, which to most will seem an essentially irreligious position, is an essentially religious one, nay, is *the* religious one to which all others are but approximations." [1]

If we now ask what is the ground of this ineradicable belief in the existence of absolute being, we are told that it rests upon the strongest of all foundations, — the unthinkableness of its opposite. Without postulating it, we can frame no theory whatever either of external or internal phenomena. But why are we compelled to think in any given way? Simply, we are told, because we cannot transcend experience. "The very fact of our being compelled to judge of the unknown by the known, of our irresistibly anticipating that the future course of events will resemble the past, of our incapacity to believe that the same effects should not grow from the same causes — this very fact is a triumphant proof of our having no ideas *not* acquired through experience." [2] Only, by experience is not meant merely

[1] [*First Principles*, p. 108.]

[2] Lewes, *History of Philosophy*, vol. i., p. cxiii.

the experience of the individual, nor even the experience of the race, transmitted from past generations by tradition, but the very faculties by which ideas are acquired are themselves the products of accumulated and organized experiences received by ancestral races of beings. This primordial experience supplies the basis from which individual experience begins.

With the scientific value, or the logical consistency, of this theory, we are not now concerned. I am not subjecting the philosophy of Mr. Spencer to any critical review, but simply making use of it as illustrating the most recent phase of the doctrine of relativity. And it clearly shows us this, that starting with the doctrine that experience is the only source of knowledge, and making the first test of truth to consist in "the inexpugnable persistence in consciousness," insisting throughout that, in its utmost limit, truth is simply the generalization of experience, he reaches a point when he is compelled to believe in something which is not the product of experience, of which he is not and never can be conscious, and which no generalization of science could ever reach. The existence of this something is simply a matter of belief. The metaphysical ground of this belief is a secondary question. It is essential to his own logical support of his position, but is not essential to our understanding of it. No matter how explained, no matter how well or how ill supported, the simple fact remains, that our only guarantee for the fundamental conception on which philosophy is built is irresistible belief.

This point is too important to be passed over without further comment. Nothing was more char-

acteristic of the positive school, as represented by Comte, than the emphasis with which it insisted on a strictly scientific method. No truth was recognized as having any validity but reasoned or logically demonstrated truth. The maxims of physical investigation were exalted into a universal organon. No facts were recognized that could not be made evident to sense. It was the boast of this philosophy, that the solid walls of the structure that it reared were not weakened by any doubtful material from the quarry of metaphysics. But this later school denounces, as a popular misconception, the notion that nothing can be known to be true that cannot be demonstrated. It does not hesitate to recognize belief as the sole basis of the fundamental conceptions of human thought. True, it attempts an elaborate vindication of the origin of such belief. Discarding as equally insufficient the explanation of Hume, that the sole criterion of truth is uniformity of experience, and the explanation of Kant, that the criterion of truth is to be found in the constitution of the mind, it professes to blend both theories together in the doctrine that our experience is the register of the facts which the external world is continually impressing upon consciousness, so that the mind receives, from generation to generation, a shape which renders it incapable of conceiving anything at variance with this register. But it is clear that this physical theory of the origin of our necessary beliefs, whether true or false, does not in the least modify their nature; nor does it modify, in the slightest degree, the conditions of the problem we have been all along discussing. What ground have we for inferring the existence of an external real-

ity corresponding with the subjective order of our thought? When we reach the last analysis, our sole warrant for this is not demonstration, but belief. In other words, far as we may push our rigid chain of scientific reasoning, we reach at last a line where the whole complexion of our mental state is altered. We may be forced by a logical necessity to conceive the existence of something transcending thought, but that this existence is not ideal, but real, can only be matter of irresistible belief.

Another characteristic of the Comtean school of positivism was the unqualified contempt which it expressed, on all occasions, for metaphysics. The great problems of metaphysics were dismissed as insoluble, as finding no place in scientific method, as characteristic of a lower and preliminary stage in the growth of the human race. But the later theory brings us face to face with a purely ontological conclusion, — the idea of absolute being. And this conclusion it does not know of as an abstraction, but presents as a reality, the negation of which is inconceivable. True, the old phrases are repeated about the fruitlessness of metaphysical inquiry, and what are termed the objective and the subjective methods are carefully distinguished. We are told that the difference between a scientific and a metaphysical principle consists, not in the fact that the former is not disputed, but that it is open to verification, and that a sound philosophy is simply the most generalized form of science; but, with whatever pretexts, the great fact is recognized that these conceptions cannot be dismissed from human thought.

When Mr. Lewes so earnestly contends for the application of scientific methods to metaphysics, he

virtually avows that the problems of metaphysics cannot be discarded. There is a path, he tells us, through which these problems may be accessible. The question with him is one of method. The first operation, in dealing with a metaphysical problem, is to disengage the known from the unknown elements. As a guide to research, he proceeds to lay down the formula, that "the existence of an unknown quantity does not necessarily disturb the accuracy of calculations founded on the known functions of that quantity."[1] This not only virtually concedes the principle for which I contended at the outset, but it reveals, on the part of this popular writer, a significant change in the estimate of truths. The sphere of inquiry is immeasurably extended beyond the line drawn by those who limited philosophy to the study of physical causation. When he assures us that the great problems which for thirty years he dismissed as insoluble he now regards as soluble, he passes sentence of condemnation on all who, on scientific grounds, profess to care not for these things.

The general body of doctrine that passes under the designation of positivism is the bugbear of the modern religious mind. It is looked upon as a system which, on rigidly scientific grounds, subverts our belief in a supernatural order, and which arrays all the best attested results of modern scientific inquiry in opposition to the most cherished convictions of the soul. It is popularly regarded as creating an impassable barrier between the seen and the unseen ; as rejecting with contempt inquiries with which the most vital interests of humanity are

[1] [*Problems of Life and Mind* (1st series), vol. i., p. 37.]

bound up. And it must be acknowledged that, as frequently expressed in its more popular forms, it has furnished ample occasion for this reproach. But we have seen from this hasty survey, that, accepted in this spirit, it no longer satisfies its most thoughtful adherents. The strict disciples of Comte, at the present day, are a mere handful. His name is mentioned with scorn by some of the leaders of modern thought who owe their first impulse to his teachings; and, as we know, he lived long enough himself to bring a stinging reproach of insufficiency against his own fundamental postulate. In its modified form, this school deals with the very problems which it once discarded, and not only this, but, in dealing with them, it virtually indorses the method which it once condemned; for the irresistible belief, which Mr. Spencer recognizes as the foundation of philosophy, however he may account for its existence, does not practically differ from the intuition on which the older philosophy insisted. If this is merely the result of experience, it cannot be necessary and absolute; if necessary and absolute, it must involve an element which mere experience cannot supply. It was this intuitional element in Spencer's view which excited the profound repugnance of Mr. Mill. But this is one of its fundamental characteristics; and although, as applied by Mr. Spencer, it cannot be said to advance us very far in the line of any positive religious conception, yet it effectually demolished the barrier which the earlier positivism had set up. It again opened the questions which Comte had declared forever settled. It may not decide these questions in a satisfactory way, but it no longer seeks to banish them from the jurisdiction of human thought.

In recognizing, even in this modified form, the validity of intuition, Mr. Spencer concedes the great principle that the sphere of truth extends beyond the domain of mere logical inference. In other words, the soul is seen to be subject to more than mere intellectual conditions. It was a maxim of Comte,— a maxim that underlies and pervades his whole theory of the progress of humanity, — that *ideas* and ideas alone, govern and modify society; that the social mechanism, in its last analysis, rests wholly on opinions. This doctrine was made familiar to English readers a few years ago in the now almost forgotten history of Mr. Buckle. This writer, with a parade of learning that for the moment confused his undiscerning readers, set forth the theorem that the laws of human development were only intellectual laws, and that the moral element might safely be omitted from our survey. We find in Mr. Spencer an unqualified rejection of this view. "Ideas," he tells us in a striking passage, "do not govern and overthrow the world; the world is governed or overthrown by feelings, to which ideas serve only as guides. The social mechanism does not rest finally upon opinions, but almost wholly upon character."

Refusing as he did, to recognize in his philosophy any consciousness of a cause manifesting itself to us in phenomena, scouting, indeed, the very conception of cause as unworthy the notice of science, Comte, when in his old age he sought satisfaction for the irresistible cravings of his religious nature, was driven to find the object of his worship in Humanity, whose collective life he termed the Supreme Being. And hence that strange ritual, which Mr. Huxley sneered at as "Catholicism minus Christian-

ity;" while Mr. Spencer, conceiving the object of religious sentiment as the unknown source of things, insists that however the mere forms of apprehension may change, from age to age, the substance of the consciousness can never pass away. But as, according to his view, the life of humanity is a constant evolution, the inner necessity which shapes our thinking, being the result of a constant and progressive modification of the structure of the mind itself, we can fix no limit to the form which the religious sentiment may assume. In our knowledge of the Infinite Unknowable we may make an indefinite advance, and come to know far more than we now do of the Being whom we can never fully search out.

The question by what philosophical term we may choose to designate the result here reached is a question of quite secondary consequence. The term intuition is connected with old associations and with different modes of thought. But when we are told that, as the last result of a scientific method, and by the inexorable conditions of our thought we are compelled to recognize the existence of a "Power to which no limit in time or space is conceivable, of which all phenomena, as presented in consciousness are manifestations," we seem to recognize what philosophy regards as the most fundamental of all intuitions, the intuition of Being. And, in reaching this result, it need hardly be added, we reach the starting-point of Natural Religion. With this postulate conceded, what remains is a question of mere method. We may pause with this result, or following the path of a scientific or a metaphysical inquiry, may deduce further conclusions from it. We may deduce these conclusions soberly, or we may deduce them

rashly; we may pursue the inquiry with the indifference with which we investigate physical phenomena, or we may pursue it with our whole being stirred to its inmost depths by a sense of the overwhelming interests involved in the solution of the problem, but we are no longer at issue respecting the reality of the fundamental conception on which religion rests. The doctrine of the relativity of knowledge, about which we have heard so much, does not affect this conception in the least. A few may say, with Mr. Frederic Harrison, "We do not concern ourselves with the absolute and the infinite, or with first causes, or eternity, or transcendentals of any kind. We neither accept these notions nor deny them, nor disprove them, nor denounce them, nor in any way concern ourselves about them," but the doctrine of relativity leads legitimately and logically to no such result. Physical science may rightly take this ground. The physical inquirer, if he is wise, will not intrude upon any other. But beyond the limit of logical inference lie truths which make their appeal to something deeper in man than the mere reasoning faculty. So that, however unsatisfactory Mr. Spencer's conclusion may seem, if we go no further, it supplies an essential step in our argument for Theism.

Let it not be supposed that in affirming this we go back to the seductive theories of the early Transcendentalists. The result which we here reach is by no means the result which they proclaimed with such generous enthusiasm. The faith instilled in their musical sentences was faith in a direct insight that recognized ideas independently of any relation to the phenomena of sense and spirit. The capacity

to recognize these ideas was conceived of as a special faculty for the infinite and absolute, an immediate intuition of the eternal and divine. According to this theory, the more completely the soul was sundered from the things of sense, the clearer and more penetrating was its insight. But the conclusion which we have reached, though not the logical result of reasoning, is yet, in the strictest sense, a rational result. For, while we conceive that the absolute cannot be known as the product of any inductive or deductive reasoning from the phenomena presented to the senses, we affirm that it is and can be known as the correlate which must be necessarily assumed to explain and account for those phenomena. And it is by fixing the attention upon these phenomena that the existence of the absolute and eternal is made evident.

This belief which we have reached in the existence of Absolute Being may, therefore, be defined as an act of Reason. "Reason," in the words of Cardinal Newman, "is that faculty of mind by which knowledge of things external to us, of beings, facts, and events, is attained beyond the range of sense. It ascertains for us not material things only, or immaterial only, or present only, or past, or future; but, even if limited in its power, it is unlimited in its range, viewed as a faculty, though of course in individuals it varies in range also. It reaches to the ends of the universe, and to the throne of God beyond them; it brings us knowledge, whether clear or uncertain, still knowledge, in whatever degree of perfection from every side; but at the same time with this characteristic, that it obtains it indirectly, not directly."

"Reason does not really perceive anything; but it is a faculty of proceeding from things that are perceived to things which are not; the existence of which it certifies to us on the hypothesis of something else being known to exist, in other words, being assumed to be true."

"Now, if this be Reason, an act or process of Faith, simply considered, is certainly an exercise of Reason. It is an acceptance of things as real which the senses do not convey: it is an instrument of indirect knowledge concerning things external to us."[1]

I trust that in this imperfect handling of a great subject I have not failed to make my main purpose clear. In presenting the argument for the divine existence, it was needful to show whether the question was one with which the intellect could legitimately deal. Does a problem so vast lie within the scope of finite faculties? This raises at once the question of the nature and limitations of human knowledge. That human knowledge is in its nature relative, that what we know can be known to us only under the limitations of human consciousness, is a principle on which all sober thinkers are agreed. But what is implied in this; how far is the mind shut up by acknowledging this principle? According to one view the mind is shut up to phenomena and their laws, and any attempt to pass this line is denounced as childish folly. But I have endeavored to show, from the writings of the recognized living leader of this school, that the doctrine of relativity, fairly understood, will not allow us to stop here, that we are brought at last to a point where the intuition

[1] *University Sermons*, p. 206.

of absolute existence is forced irresistibly upon the mind. Even science cannot come to its extreme verge without drawing transcendental inferences.

When La Place was reproached for not having mentioned the name of God in his great work, he replied that he had no need of that hypothesis. As a mere man of science, he had a perfect right to make such an answer. Physical science deals with the facts of nature, and the laws to be deduced from them. It does not undertake to go beyond. If the motions of the heavenly bodies could be accounted for on a purely mechanical principle, the astronomer had a right to stop with that. The task he had in hand did not require him to push his researches any further. But precisely where the astronomer stopped all the real interest of the problem began. The question which he had so skillfully answered only brought the mind face to face with questions which his methods could not solve. By the laws of our intellectual constitution we are forced to believe that there is something beyond. What light is thrown by the external universe, or by our own consciousness, upon the nature of that unknown something; what is taught us by the seen respecting the unseen; these are questions which science does not ask, but to which the soul of man demands an answer.

LECTURE III.

CAUSE AND FORCE.

LET us see how far our inquiry has thus far brought us. I have sought to show that the accepted methods of modern philosophical thought furnish no presumption against the primary postulate on which natural religion rests; that the recognized principle of the relativity of knowledge, instead of excluding, logically involves the affirmation of absolute existence. It is simply repeating a commonplace when I assert that all inquiry leads us back to certain ultimate truths, or facts, which defy any further analysis, and of which the most that we can say is that no conception whatever of things can be formed which does not rest in the affirmation of their existence. For any explanation of the universe that the mind essays must end in the inexplicable. The confines of the known are everywhere in contact with the unknown; the most certain knowledge on every side fades out in mystery; the farthest vision at length grows dim; the infinite world of ever-changing phenomena forces on us the conviction of something of which all this is but the manifestation and which changes not.

We have now to ask whether this mystery that envelops the origin and end of all things is absolutely inscrutable, or whether the human intelligence may make some effort to search it out. Are we shut

up to the blank conclusion that some Being exists, forced to recognize the fact, but with no faculties that fit us to understand its nature and interpret its relation to ourselves; or have we the means given us of advancing along the path that thus opens before us? What can we know of the central principle of all existence? Is it in its real essence accessible to our finite faculties? Are we capable of reaching any further explanation of it? These are the problems that have haunted human thought since the day when man became conscious of his own existence. The first dim questioning of the awakened soul in the infancy of time, and the latest results of the most matured and discriminated scientific thought, lead to the same result, and culminate in the question which is the last, and highest, and greatest of all questions, the question as to the nature of that Being who is before all things and in whom all things consist.

But it will be of use, at the outset, to state the precise form of the inquiry upon which we are about to enter. The contest between those who affirm and those who deny the existence of a Supreme Being, or at least who deny that we have any sufficient evidence presented to us for affirming that existence, has varied materially from age to age, and the points on which the controversy now hinges are not the points on which it hinged a century ago. In the last century the warfare against religious belief was mainly waged on metaphysical grounds; at the present day it is mainly waged on grounds derived from the conclusions of science. The physical sciences especially are claimed to have established beyond doubt certain principles which, if they do not con-

tradict the existence of a Supreme Being, at least render the hypothesis of such existence no longer necessary. In the new conception which we have reached of the organization and correlation of the material universe, we have a satisfactory solution given us of the problem of existence, and religious belief is discarded as an explanation suited to one stage of human progress, but destined now to give way to a worthier view.

By the most serious advocates of anti-theistic views it is not denied that the race, in its actual historical development, has tended to recognize the existence of a Supreme Being; nor is it denied that the question to which theism is an answer is a very natural one, and that it has its origin in an obvious want of the human mind. For as soon as the mind rose to the conception of nature as a connected system, the conviction that this united whole had its origin in one mind, and was directed by one will, was a conception to which it was logically led. Accustomed as we are within the limits of experience to find a definite beginning for every fact, and to reason continually from effects to causes, it was impossible that the mind should not ask whether all that we see had not also a beginning, and whether behind the endless play of causes and effects continually presented to us, there were not veiled a more remote and ultimate cause. But the question, it is claimed, which we have now to answer is, whether this universal and natural belief is consistent with the ascertained results of science, and will it bear to be tested by the established canons of scientific inquiry.

Let me illustrate more clearly the nature of this

change. A little more than half a century ago, in a lonely spot on the Italian coast, a few miles to the north of Leghorn, a strange drama was enacted, a drama that in a Christian age and in a Christian land seemed the revival of a pagan rite. On the yellow sand which the blue water of the Mediterranean was gently washing, with the islands of Gorgona and Elba lying in the sunlight, with the marble-crested Apennines glistening in the background, with not a human dwelling in sight, and only the old battlemented watch-towers, that stretch along the coast, looming up as silent witnesses, a funeral pyre was built. From out the pure sand that lay lightly over it a naked human body, of wondrous loveliness, was next drawn, and laid upon the wood. Wine and oil was then poured reverently upon it, which when the fire was kindled caused so intense a heat that the atmosphere itself grew tremulous and wavy with the quivering flames. In the fierce burning the body was soon reduced to ashes, the only portions not consumed being some fragments of bone, with the jaw and skull. In the fiery pile the heart alone remained entire.[1]

Beside the funeral pyre, watching with intense interest the progress of the flames, stood three companions and fellow-countrymen of the departed, one of them the most famous poet of modern times. Byron watching, by the shore of the sea that he loved and sung so well, the burning of the lifeless form of Shelley! I recall no picture more striking than that! The poet who sets to music as no other poet has done the immeasurable griefs and woes that

[1] [See Trelawny, *Records of Shelley, Byron, and the Author*, vol. i. p. 212.]

make such heart-ache of human life, and the poet whose most daring venture in verse was a denial that life had any consolation beyond the grave. Of Shelley it was Byron himself that wrote, "He was the most gentle, the most amiable, and least worldly-minded person that I ever met; full of delicacy, disinterested beyond other men, and possessing a degree of genius joined to simplicity as rare as it is admirable." And yet this youth, this amiable, this unworldly, disinterested being, when still a youth was expelled from Oxford for avowing himself an atheist, and remained through his brief life the passionate apostle of a creed which left to those who gathered up his ashes nothing

"But pale despair and cold tranquillity."

With Shelley atheism was a sentiment. The ruling impulse of his nature was a passionate antagonism to what he regarded as unreal and conventional. His disgust with platitudes, his enthusiastic love of liberty, his hatred of intolerance, his impatience of control, his passion for a kind of logical consistency, all combined to make him the champion of an extreme opinion. His favorite ideal, we are told by his latest biographer, was the vision of a youth "whose eloquence had power to break the bonds of despotism, as the sun thaws the ice on an April morning."[1] Compound of poet and philosopher, his imagination pictured a new realm of truth and love and beauty amid the wreck of religious faith in which he rejoiced. The spirit of that unquiet time, of which the French Revolution was the fruit, was strong upon him. So far as he had any

[1] [J. A. Symonds, *Life of Shelley*, (Am. ed.) p. 39.]

reasoned ground for his unbelief it was drawn from the arguments of Hume. The little tract which provoked his expulsion from the university was mainly an abstract of the Scotch philosopher. His favorite authors were the superficial French materialists. And it is striking to note that as his poetic instinct was emancipated from the snares of metaphysics he seemed to yearn for a more satisfactory solution of the dark problem of existence.

But the denial of any proof of the divine existence with which we are confronted in modern thought is of a very different kind. It is not a mere passionate protest against the tyranny of custom, an impatient revolt against whatever is accepted and established, it is the calm deliberate conclusion of those who are ready to acknowledge that religion is venerable for its age, and consoling in its teachings, but who refuse to accept it because it will not bear to be tested by the principles and canons which have been established as the only safe guides of inquiry. The ruling idea of our time is not revolution but evolution. It affects no contempt for the past, as was so much the fashion in the last century; it wages no angry contest with what is old and established; on the contrary, it recognizes all that has gone before as the essential condition of the present, the ladder by which the human mind has climbed to its present height. In its cautious adherence to its own methods it refuses even to deny the existence of an eternal ground of all phenomena; it only asserts that respecting this eternal source of all existence we, as finite beings, are able neither to affirm nor to deny anything.

That, after so many centuries, this question should

still be debated seems indeed like an irony of fate. That the human race should have existed so many years, that it should have indulged such long cherished hopes, that it should have confided in so many forms of faith, and received as authentic so many utterances respecting the invisible world, only at last to be brought to the conclusion that it has walked in a vain show when it supposed itself to be communing with its Maker, is a fact which at the outset may incline us to view with distrust any attempt to rest the fundamental postulate of theism upon rational grounds. The utter impotence of reason to deal with this problem, may seem sufficiently attested in the fact that the progressive development of thought, and the perfecting of methods of inquiry, have only landed the most cultivated minds in utter skepticism. One deeply convinced of the vital relation of this doctrine to the welfare of the soul may well shrink from what seems so precarious an experiment as the attempt to justify to reason what should be accepted upon other and more indisputable grounds.

Yet however profound may be our conviction of the importance of the issues involved in the discussion, the inquiry whether religion has any reasonable ground is one that, in the present state of opinion, we cannot afford to pass by. Without questioning the fact that feeling and will are as important constituents in religious life as rational conviction, it seems clear that we cannot feel dependence upon that of whose existence we are not convinced, and that we cannot love or fear that of which we have no conception. The entire self-surrender of the soul, which is the very essence of religion, can only be

distinguished from superstition, when it is regarded as in the highest sense a rational act. On any other supposition religion must be viewed as a form of mental disease. And as a fact history shows us, that whatever have been the errors and shortcomings of human reason, it has always been in the path of rational inquiry that men have reached a theistic conception. Not by discarding reason, but by making use of reason, has the human mind risen from inadequate to adequate conceptions of the Supreme Being.

Theism may be defined in few words, "as the doctrine that the universe owes its existence, and continuance in existence, to the reason and will of a self-existent Being, who is infinitely powerful, wise, and good. It is the doctrine that nature has a Creator and Preserver, the nations a Governor, men a Heavenly Father and Judge."[1] As a matter of fact, this conception has not been wrought by each one of us for himself, but has been handed down from age to age, from generation to generation, from parent to child. Few of us know when or how we became possessed of it. Tradition, education, social influence, have determined its shape and insured its acceptance. It is part of our civilization, part of our life, is the very air we breathe. Yet this does not relieve us from the obligation of ascertaining the rational grounds on which it rests. And this obligation, which our own inner harmony demands, becomes imperative whenever the doctrine is called in question. What we have perhaps accepted with passive acquiescence, becomes then, at once, the most urgent, the most sacred, the most momentous inquiry

[1] Prof. R. Flint, *Theism*, p. 18.

with which the human intelligence can ever busy itself.

And since truth is infinite, it seems a reasonable conclusion that the knowledge of religious truth, like other knowledge, is progressive. It has been hastily assumed that in the discussion of religious questions we only tread a circle, and repeat, in other phrases, arguments which have been again and again advanced. But there seems no good reason for supposing that here, as everywhere, the mind cannot, by deeper reflection, by wider comparison, by survey of the subject from new points, be unclothed of old errors and clothed upon with new truths. And especially may such a result be anticipated as a result of the new controversies which from time to time spring up. A new phase of error and unbelief, if it be proved to be such, can hardly fail to develop a new phase of truth. Progress is the conciliation of apparent contradictions. It may be, even in religious controversy, that both assertions are imperfect statements. In dealing, therefore, with what we regard as error, we need not be disturbed, if we find, on emerging from the conflict, that while we have established some positions, we have been compelled to relinquish others. We learn often our best lessons from our foes.

If, then, we believe that there is one God, and believe further, that we can know Him in his relations to ourselves, we ought to have reasons or grounds for this belief. But, upon entering upon a more detailed examination of these grounds, there are certain general considerations respecting the nature and limits of the inquiry in which we are about to engage, that ought to be presented. The question is

the most momentous and solemn that the human mind can consider, and it needs to be approached with especial care. I do not refer simply to the moral temper that befits such an inquiry, for it need not be said that in such a discussion we ought, at the outset, to divest ourselves of the spirit of the mere controversialist. The petty ambition to vanquish an opponent should have no place in a discussion like the present. We are dealing with a question of incalculable gravity, and one respecting which opinion, in our time, is widely and seriously divided. And the arguments of those who deny that there is any proof of the divine existence, or any means of knowing the divine nature, have been urged with too much candor, and too much seriousness, to be met with any but the most considerate and respectful answer.

But what I have in mind is not so much this moral temper, as certain intellectual conditions which should guide our study. The nature of the proof which we are about to undertake, needs to be carefully discriminated. Since the famous critique of Kant, arguments which once played a great part in the discussion have fallen into disrepute, and the opinion has come to be widely spread, not only with those who reject, but also with those who accept the doctrine, that the existence of God does not admit of being proved. It is therefore needful to state clearly, at the outset, in what sense we use the word proof as applied to the divine existence. For it is hardly necessary to say that the term, in different departments of inquiry, is used in very different meanings. "The proofs for the existence of God," says Ulrici, "coincide with the grounds for the be-

lief in God; they are simply the real grounds of the belief, established and expounded in a scientific manner. If there be no such proofs, there are also no such grounds, and a belief which has no ground, if possible at all, can be no proper belief, but an arbitrary, self-made, subjective opinion. It must sink to the level of mere illusion."[1]

If this be true, it follows that the proofs of God's existence must be simply his own manifestations; the ways in which He makes himself known, or, in other words, the phenomena alike of consciousness and of the external world. Our reasonings have no value save in so far as they are inductions from these, and from these phenomena our minds may rise legitimately to the apprehension of God, though we are capable, in many instances, of giving ourselves no rational account of the process through which we have gone. The analysis of our mental acts belongs to a later stage of our development. According to this view, it follows further that the evidences of the divine existence are innumerable, while at the same time they coalesce in a single, comprehensive argument. And being so countless and multiform they address different minds in very different ways. Thus, as Mr. Mill truly remarks, "the evidences of a Creator are not only of several distinct kinds, but of such diverse characters that they are adapted to minds of very different descriptions, and it is hardly possible for any mind to be equally impressed by them all."[2] Hence a true view of the subject must be a very wide and very comprehensive view.

[1] Quoted by Flint, *Theism*, p. 60.
[2] *Three Essays*, etc., p. 138.

And not only this, but the exceedingly complex nature of the theistic argument is further seen in the fact that the very process by which the mind rises to the apprehension of God is a process which involves what is most distinctive and essential in its own constitution. Or, in other words, God can be thought of as the active, intelligent principle of all that exists only after a distinct consciousness of our own selves as voluntary agents. To conceive of the Deity as a cause, we must have had some experience of causation. If we did not first know ourselves as causes, we should never reach the conception of a primary, all-originating will. So, too, it is only in virtue of the direct consciousness of our intellectual operations, that we can conceive of a Supreme Intelligence. So, from our moral nature, we are led in the same way to invest the Divine Being with moral perfections. Thus the mental process by which we reach the idea of God, is a process which summons into activity all that is highest and most essential in human nature. Whether the result which we thus reach is legitimate or not, it is a result in which all our noblest parts and all our finest faculties harmoniously concur.

Thus the various arguments for the existence of the Supreme Being are but stages in a single rational process, and parts of one comprehensive proof. They are organically related, and they ought to be separated only for the purpose of comparison and study. The strength of the argument is the strength of the whole, not the strength of any of the separate proofs which go to make it up. And although so comprehensive and various an argument may appear, at first sight, confused and difficult, it

is not really so. Though the Divine Being seems so far removed from us in accessless majesty, though no man hath seen Him at any time, and though we have no direct or immediate knowledge of Him, yet we know Him as naturally and as simply as we know our fellow men, and in fact we know Him, if we know Him at all, in the same way. We have no direct or immediate knowledge of our fellow men. In either case, we simply refer certain manifestations of character to certain moral and intellectual qualities which consciousness has revealed to us as their causes. Thus we grow in the knowledge of God precisely as we grow in the knowledge of those whom we meet in the intercourse of every day.

I do not of course mean that the evidence of the divine existence is as plain and indubitable as the existence of our fellow men. Were it so, we might have spared ourselves this long discussion. Though some have made a boast of atheism who really believed in a form of theism, and some have been called atheists for rejecting unworthy conceptions of the Supreme Being, we must suppose that many have been brought sincerely to doubt the divine existence. Yet the fact that some do not reach any belief in God, does not render any less true the statement, that the process by which the mind attains such belief is of the same direct and natural character as the process by which it attains belief in the existence of finite beings. And when it has attained this belief its further apprehension of the character and attributes of God is also of essentially the same nature as that by which it becomes acquainted with its fellows. For the mental process

must remain the same, whatever the subject with which for the time the mind is conversant. Without doubt the mental process is affected by the moral state, and becomes keener and more active as the emotions are quickened; but that its essential movement is the same, under whatever circumstances, cannot admit of doubt.

We do not need to burden our discussion with the consideration of arguments for the Divine existence which are practically obsolete, and which do not touch modern speculation with force enough even to provoke controversy. These theories lie like wrecks on the shores of thought, and interest us only as relics of an intellectual habit that has long passed away. These *à priori* proofs possessed a singular fascination for speculative minds, but had they been conclusive they would, like the demonstrations of geometry, have carried irresistible conviction long ago. The fact that they have failed to convince is the best evidence that they were fallacious. Whether in the form in which the argument was first stated by Anselm, or in the more elaborate theory of Descartes, they are all open to the same objection of reasoning from the necessary notion of God to his necessary existence. But the very essence of the problem is the opening of a path by which we may pass from the notions of the intellect to the realities of the universe beyond, and at the very outset to assume the existence of the one as a demonstration of the other is simply to beg the question. We have, in reality, simply an ideal conclusion from an ideal premise.

Anselm argued that our idea of God is the idea of a being than whom we can conceive nothing

greater. But since real existence is greater than mere thought, the existence of God is involved in the idea of the most perfect being. For if we suppose God not to have existence, the idea of something greater would remain. This subtle reasoning was characteristic of the scholastic age. That so acute a mind should have been satisfied with such an argument can only be explained from the intellectual habit of the time. Descartes, while devising a new method of experimental research, strangely followed the track of mediæval speculation. He argued that necessary existence is as essential to the idea of an all-perfect being as the equality of its three angles to two right angles is essential to the idea of a triangle. "I cannot conceive God," he says, "except as existing, and hence it follows that existence is inseparable from him."[1] Here, again, an ideal concept is identified with an external fact. The most that the argument could prove would be that the mental concept was necessary, not that it had any counterpart in the external universe. But we need not linger with arguments that modern thought has ceased to notice.

Let us pass, then, to a conception which is still regarded as a main support of the argument for the divine existence, — the idea of a First Cause. It has been truly remarked, that everybody is a metaphysician, just as everybody is a poet; that is, everybody has certain primary ideas and maxims which are involved in all exercise of thought, precisely as the rules of grammar are involved in speech. In Molière's amusing play, Monsieur Jourdain is amazed to find that he had all his life been speaking prose, though

[1] [*Meditationes*, v.]

he had done it with no knowledge of the fact. In the same way we are unconscious philosophers from the hour when we begin to think. One of the most simple and rudimental of all truths is the maxim that every event must have had a cause, — not every existence in nature, for much confusion and unsound reasoning have arisen for want of clear discrimination at this point. Merely from the present existence of any object, I cannot infer that it must have had a cause; for, so far as I can tell, it may have existed in its present state forever. The mere presence of the world would not enable us to prove the agency of a Creator. Simple existence supplies no foundation for reasoning from effect to cause.

The idea of cause springs out of change. So soon as change takes place, we affirm without hesitation that there is some agency or cause at work. Whatever has begun to be must have had a ground or antecedent sufficient to account for its beginning. I may appeal to the familiar experience of every one of us in proof of this. No sooner do we witness any change within us or without us than we find ourselves instinctively considering how it came to pass. By an instinctive tendency or constitutional law, the mind goes out in the direction of a cause. The intellect is not content till it has pushed on to this resting-place. Save on the hypothesis of this relation between effect and cause, there is not only no rational conception of the present phenomena of mind and matter, but there is no real connection between the past, the present, and the future. Take this away, and the relation of all this is destroyed. and the frame-work of the universe falls to pieces. Existence becomes incoherent as a dream, and the

great globe itself but the "baseless fabric of a vision." Without this relation, everything becomes independent; everything becomes separated from everything else; everything is its own beginning and end.

Yet, while the idea of cause is the simplest and most natural of all ideas, it is at the same time the most imperious and most unfathomable. While we are compelled to accept it, we strive in vain to grasp it. While we are forced by a necessity of our nature to seek after it, we cannot tell what it is. When we are brought to face the question, what that was which existed before existence, and of which all that exists was the necessary outcome, we can simply pause and confess our inability to answer it. In the order of nature, we have only set before us an endless succession of consequents and antecedents, but the connection between these two is something of which we can form no idea. Yet, while we are capable of forming no conception of the nature of a cause, we are none the less convinced that a cause for every event must exist, and that no change can take place without one. And in this idea is involved the further idea, not less inconceivable, that from eternity something must have existed. Since something now is, it is equally plain that something always was. "This is so evident and undeniable a proposition," says Dr. Samuel Clarke, "that no atheist in any age has ever presumed to assert the contrary."[1]

If the necessary character of this maxim be conceded, it is of no consequence, so far as its bearing on the theistic argument is concerned, what philo-

[1] [*Demonstr. of the Being and Attributes of God* (7th ed.), p. 8.]

sophical theory we adopt to account for its origin. We may assert that the mind intuitively believes that every event is caused; or that the idea of cause is suggested to us from the analogy of that spiritual causation of which we are directly conscious in ourselves when we put forth an effort; or explain it from the inability of the mind to form any other conception; or hold, with a numerous modern school, that the idea of cause is simply a generalization from observation. "The law of causation," says Mill, "the recognition of which is the main pillar of inductive philosophy, is but the familiar truth, that invariability of succession is found by observation to obtain between every fact in nature and some fact which preceded it."[1] But Hume himself, who was the father of this theory, did not deny the necessary connection between effect and cause. His elaborate investigation into the nature of causation was undertaken simply to ascertain why we think it necessary. He only sought to show that this connection, so far as the mind can know it, is simply the offspring of experience.

Accepting this principle, which no one will deny, that for every event there must be a cause, the question next arises, How far does it legitimately carry us? The notion that the principle of causality can only be abstractly applied, has led some to argue that it can only result in an eternal succession of causes and effects. We have, then, next to ask the question, What can be evolved from the idea of cause as it exists in our own minds? Does this idea demand finality, or is it satisfied with an endless series? In other words, does the same necessity of thought, which

[1] [*System of Logic*, b. iii., c. v.]

requires us to believe in cause at all, require us equally to believe in a *first cause?* The objector may urge, "I hold to causation, but why must I believe in a first cause? What greater difficulties are there in an infinite succession of causes than in an original and self-existent cause? Both are absolutely incomprehensible; both raise difficulties which I cannot solve. But why compel me to choose one of these dilemmas rather than the other?"

The objection, at first sight, seems plausible, but loses its force when we reflect that an infinite series does not make a cause, and cause is precisely what reason here demands. The real alternative does not lie between an infinite series and a first cause, but between accepting a first cause, or rejecting the idea of cause altogether. We are familiar enough with the notion of a proximate or secondary cause, and we may form the conception of an indefinite succession of real causes, yet all this does not satisfy our idea of cause. The only true cause is a first cause; when, therefore, the universe is thrown back upon an infinite succession, there is a violation of the fundamental principle of reason. For an infinite succession of causes rests, by the very hypothesis, upon no cause. Each particular cause rests, indeed, upon the next, but the whole rests on nothing. "The reason," says Kant, "is forced to seek somewhere its resting-point in the regress of the conditional. If something exists, it must be admitted that something exists necessarily; for the contingent exists only under the condition of another thing as its cause, up to a cause which exists not contingently."[1] Reason cannot stop short of this.

[1] Quoted by Mozley, *Essays*, vol. ii., p. 432.

Now, if it be true that the notion of an infinite succession of second causes is incompatible with the idea of cause, we have already met the objection, that the argument which infers a self-existent cause of the universe is a contradiction of the law of causality. That every event must have a cause is granted; but if you proceed, it is said, to affirm the existence of that which is uncaused you deny the principle that you have just asserted. You claim more than your argument allows; you are not developing a logical conclusion, but jumping to a result that lies far beyond the limit of your reasoning. It must be conceded that the idea of a self-existent cause does not come under the law of causation. But, while the law of causation does not lead logically up to the conclusion of a first cause, it compels us to affirm it. The question why we are compelled to make this affirmation is one for which various explanations may be given. The fact that every one as a reasonable being is forced to do it, is the only fact of consequence, and this is a fact that is placed beyond dispute by any fair analysis of the operations of our own minds. Those who have denied that the principle of causality thus involves a first cause, have been, in fact, forced to the recognition of the principle under another name. They have virtually confessed what they have professed to deny. By different paths they have been led to the conception of an original ground of all existence, and not to the conception of an endless succession of second causes. It matters not whether this original ground of all phenomena be termed matter, mind, or force, it comes essentially to the same thing at last. I do not mean that those who thus hold to

a permanent element beneath phenomena accept, in the strict sense, the doctrine of a First Cause, but the readiness with which they adopt this hypothesis is conclusive proof of their reluctance to rest in the idea of a mere succession of second causes. And it should further be observed, that the most inadequate explanations of the principle of causality are not more incompatible with the theistic inference than they are with any scientific inference which involves a real extension of knowledge. If compatible with anything more than formal and deductive science, they are equally compatible with religion.

The argument which we have here considered is metaphysical, for the necessity by which we rise from a series of second causes to a first cause, is a necessity of thought. It is a result legitimately evolved from the very idea of cause. Yet, while metaphysical, it must not be confounded with the purely *à priori* speculations of Anselm and Descartes. For it is reasoning from the external universe, not from the abstract conception of the mind. This concrete use of the principle of causality, the only use which has any meaning, renders the argument, in effect, a conclusion from experience. Still, it has been urged that, as a fact of experience, causation cannot be extended to the material universe itself, but only to its changeable phenomena; and that it is a necessary part of the fact of causation, within the sphere of our experience, that the causes, as well as the effects, had a beginning in time; since if the cause existed always the effect would have existed always also. "It would seem, therefore," Mr. Mill argues, "that our experience, instead of furnishing an argument for a first cause, is repugnant

to it; and that the very essence of causation, as it exists within the limits of our knowledge, is incompatible with a first cause."[1]

In reply, I would say, that no one has ever claimed that we gain from experience the idea of a first cause, and if we can know nothing but what we gain directly from experience, all discussion of cause that assigns any meaning to the term may well be, at once, abandoned. Yet, in the very essay which I have just quoted, Mr. Mill concedes that there may be a permanent element in nature beneath its changeable phenomena, which may with some justice be termed a first or universal cause. But we know nothing, by experience, of any such unchanging element. It is a legitimate hypothesis that the substances, which seem to us elementary and intransmutable, are in reality modifications of some single element. No chemist has ever recognized, in his experience, those ultimate atoms whose existence he assumes. If, then, we undertake to assert the existence of that permanent element in nature, which Mr. Mill so readily concedes, we must pass just as much beyond the limits of experience, as when, by a necessity of thought, we are led to reason from a succession of finite causes to a first cause. Science, not less than Philosophy, demands a faith which transcends all testimony that the senses furnish. We push no further in one direction than in the other.

The most vigorous assault upon the doctrine of a first cause comes, however, in our own time, not from the field of metaphysics, but from the field of physics; and this we have next to consider. The

[1] *Three Essays*, etc. (*Theism*), p. 144.

concrete argument for a first cause starts, as we have seen, from our experience of the changes in the external universe. These are known to us as facts, and for these facts we have to give ourselves an account. Yet in all this reasoning, it is assumed that the universe is an effect, and that it owes its existence to a cause distinct from itself. And, according to the conception which formerly prevailed respecting matter, and the distinction between matter and spirit, it is conceded that the view that the external universe was an effect was not irrational. But it is claimed that the conclusions of modern science have changed all this, and that in the light of these conclusions we are no longer authorized to look upon nature as simply an effect. Beside the changing phenomena, which all agree in tracing to the operation of causes, we are confronted, as we examine it, with permanent and unchangeable elements which, so far as we can see, stand in need of no such explanation.

These permanent elements in nature, it is argued, are not known to us as beginning to exist; or, in other words, within the range of human knowledge they had no beginning, and consequently no cause, though they are themselves causes of everything that is taking place. The converging evidence of all branches of physical inquiry seems to be landing us in this result. For wherever a physical phenomenon is traced to its cause, that cause is found, in the last analysis, to be a certain quantum of force, combined with certain collocations, and the last generalization which science reaches is that this force is everywhere essentially the same, and exists in a fixed quantity which can neither be lessened nor

increased; and that the constant changes which we witness are due partly to the amount of force and partly to the diversity of the collocations. It is only to this permanent element in nature that Mr. Mill is willing to apply the designation of First Cause, that is, the primeval and universal element in all causes. "For all effects," he says, "may be traced up to it, while it cannot be traced up, by our experience, to anything beyond."[1] Here we reach the last result of physical inquiry.

This requires perhaps, in passing, a little fuller statement. The fundamental maxim on which is founded the modern scientific conception of the universe is derived from the analytic study of the movements of matter. For, as the beginning alike of chemistry and physics, we have two universal propositions, both rendered familiar to us in the popular scientific discussions of the past few years. These two propositions are that matter is indestructible, and that motion is continuous. Upon the validity of these two closely related maxims rests the validity of every conclusion which chemical or physical science has thus far reached. If the scientific inquirer had to deal with quantities which could be either wholly or in part annihilated, or with motions which could wholly or in part cease, science would at once come to an end. The ancients held to the opinion that matter might be created or destroyed; and until modern times it was supposed that moving bodies had a natural tendency to come to a standstill; but by degrees it was seen that where matter apparently disappears, and where motion apparently ceases, there is in reality only a subtle transformation into another form or into an equivalent quantity.

[1] *Three Essays*, etc. (*Theism*), p. 145.

These two theorems are not fundamental but derivative, and thus we are led directly to a more general proposition that lies back of both. For in asserting that matter is indestructible, and that motion is continuous, we assert by implication that force is persistent, that is, that the force manifested in the known universe is constant, and can neither be increased nor diminished. For, it is evident, that the indestructible element in matter is its resisting power, or the force which it exerts, and that when motion is arrested we are obliged to conceive of force as impressed in the shape of reaction on the bodies causing the arrest. Strictly speaking, we have no proof of the proposition that force is thus persistent. It is a truth which does not admit of demonstration. At the bottom of all demonstration there must lie an axiom which itself is undemonstrable. We are compelled to believe in the persistence of force, simply for the reason that it is impossible to conceive of something becoming nothing, or of nothing becoming something. We pass beyond the realm of experience, and appeal to a psychological necessity. Science lands us, at last, in a transcendental region — all her conclusions are seen to rest upon a postulate which we recognize as a law of conscious thought.

In this persistent force, of which all the phenomena of the universe are but modes of manifestation, we have given us, it is claimed, that permanent element, to which, if to anything, we must assign the character of a first cause. Nor is this reasoning essentially affected if we claim that mind, so far as experience teaches us, is the only thing capable of originating change, and that therefore this original

force from which all change results must be identified with mind. For if the doctrine of the conservation of force be true, the will does not, any more than any other cause, originate force, it simply directs into a particular channel a portion of the force already working in other ways. Volition is an originating cause only so far as it liberates a certain amount of force evolved in the physical processes of the human system. Volition, therefore, does not answer to the idea of a first cause, since force must, in every instance, be assumed as prior to it, and there is no reason for supposing force itself to have been created by volition. Thus so far as the lights of science guide us, and so far as human experience teaches anything, "we may conclude that force has all the attributes of a thing eternal and uncreated." [1]

If it be urged that mind at least exists, and that mind must have produced mind, we are pointed to numberless analogies of nature in proof of the fact that nobler and more precious products are constantly derived from a viler material, and that the development of the superior from the inferior, the elaboration of the higher from the lower is the general law. Mind does not therefore demand mind as its original cause. And, as a result, we are brought to this conclusion, "that the argument for a first cause may be dismissed, since no cause is needed for that which had no beginning. The phenomena and changes in the universe have, indeed, each of them a beginning and a cause, but this cause is always some prior change; nor do the analogies of experience give us any reason to expect, from the mere occurrence of changes, that if we could trace the series far

[1] *Three Essays*, etc. (*Theism*), p. 147.

enough back, we should arrive at a primeval volition. The world does not, by its mere existence, bear witness to a God."[1] Thus on reasonings deduced from the conclusions of physical science the doctrine of a first cause is set aside as a wholly gratuitous hypothesis.

Undoubtedly the argument which I have just sketched, an argument urged with so much calmness and made to rest on the most indubitable results of modern science, seems the most powerful assault upon the doctrine of a first cause that has yet been made. The mere metaphysical grounds of that doctrine are wholly set aside. The questions so much debated by a certain school of thinkers, whether from the consideration of a chain of second causes we are compelled, by a necessity of thought, to assume a first cause, whether from the contingent and finite we can leap up by a legitimate process of mind to the infinite and absolute, are no longer of consequence. If it be granted that some kind of being must always have existed, and that the universe in the endless transformation of its own primeval forces contains within itself its own causal principles, the hypothesis of any other source ceases to be a logical necessity. In short, if the universe be not an effect, we are not required to infer a cause. For the affirmation of a first cause being a regressive inference from the existence of a special class of effects, it is evident that the whole argument hinges on the question, does such a state of things really exist as is only possible through the agency of a supra-mundane cause.

Once Locke wrote the words, "If it be said, there

[1] *Three Essays*, etc. (*Theism*), p. 153.

was a time when no being had any knowledge, when that eternal being was void of all understanding, I reply, that then it was impossible there should ever have been any knowledge; it being as impossible that things wholly void of knowledge and operating blindly and without perception should produce a knowing being, as it is impossible that a triangle should make itself three angles bigger than two right ones. For it is as repugnant to the idea of senseless matter that it should put into itself sense, perception, and knowledge, as it is repugnant to the idea of a triangle that it should put into itself greater angles than two right ones." The argument was conclusive in his day, and with the notion of the distinction between spirit and matter that then prevailed. But in our day, matter is no longer conceived of as senseless. Our notions respecting it are radically changed. If we do not go to the extent of Professor Tyndall's famous declaration, and see in it "the promise and potency of all terrestrial life," we are compelled to view it in a light which goes very far to destroy the sharp antithesis between spirit and matter which prevailed in the time of Locke. It is a sum of forces and of forces which are indestructible.

When, however, we consider more closely this most recent objection to the old doctrine of a First Cause, a few obvious reflections present themselves.

In the first place, what is essential in the idea is in effect conceded. For the theory of an original, indestructible force is, after all, but a method of accounting for change. And in accounting for change it not only concedes that every change in nature had a cause, but that back of all change lies some-

thing persistent and unchangeable. This goes far beyond the position of the early positivists, who denied that the conception of an original cause had any legitimate place in scientific investigation, and also recognizes the principle, before insisted on, that the mind cannot rest with an endless succession of second causes. There is, after all, in this theory the positive affirmation of something lying behind the finite and the conditioned. We may apply to it what designation we please, but we cannot get rid of the fact that the most refined conception of the universe that science has yet reached is a conception that leads us back to an absolute and eternal source of all the phenomena of existence.

In the second place, the subtle conception of the material universe which we here reach is not a result of experience, or of any scientific experiment, but a purely abstract and metaphysical conception. If the idea of a first cause, in the ordinary sense of the term, is a metaphysical idea, the idea of a primeval force is not less metaphysical. We arrive at it purely as a deduction from the two doctrines of the indestructibility of matter and the continuance of motion, and, too, the truth of neither one of these doctrines has ever been absolutely established by experiment. They are seen to be true by a necessity of thought. Hence, in this discussion, the antithesis is not between metaphysics and science, but between two purely metaphysical conceptions. The two hypotheses, that the first cause was self-existing mind, and that the first cause was self-existing matter, considered simply as hypotheses, are of exactly equivalent value. To say that one rests upon a solid basis of fact while the other is merely a logical

notion of the intellect, is a statement for which there is no ground whatever, since the facts to be accounted for are the same in either case. The only question is which hypothesis covers those facts most completely.

Science, then, does not rid us of the metaphysical necessity of inferring some kind of first cause; the only real issue is whether this first cause must be conceived of as mind or matter; whether we are bound to infer some action of conscious intelligence in the production of the ceaseless changes, of the beginning of which we have no knowledge, or may we as rationally refer them to the operation of blind force. So far as relates to the bare metaphysical conception of a first cause, it makes but little difference whether we assume it to be mind, or whether, assuming it to be matter, we proceed to sublimate our idea of matter, and endue it with such powers and potencies that the dividing line between mind and matter is practically wiped out. For the bare abstract conception, if that is all that we are in search of, will be furnished by one assumption as well as by the other. At best, such a conception is only a colorless beginning; it satisfies a necessity of thought, but does not set us forward in the way of any actual knowledge; its only value, so far as natural theology is concerned, consists in its laying the foundation of a structure, to be built with other material. We only weary ourselves by seeking thus to climb the ladder of finite agency, and mount back through the long series of dependent sequences to one uncaused cause, if we do not proceed to withdraw the result we have reached from the region of metaphysics. "The notion of a God," says Sir Wil-

liam Hamilton, "is not contained in the notion of a mere first cause; for, in the admission of a first cause, atheist and theist are at one." [1] What we are in search of, as the foundation of religion, is not a blank essence, or an inconceivable substance. It is only when we have completed and perfected the idea, and when we return to it with the results of further inquiry, that the idea of a first cause becomes clothed with religious significance. Yet, incomplete and unsatisfactory as is the mere abstract conception of a first cause, it is still an essential part of that complex and comprehensive reasoning on which, as we have seen, the argument for the divine existence rests; and it is a point of no small importance thus to ascertain at the outset of our inquiry, that recent science, instead of dismissing the hypothesis, has supplied us with a striking evidence of the impossibility of excluding it from rational thought.

For this reason, I find myself wholly unable to agree with those advocates of theism who would wholly dismiss the doctrine of a first cause from the science of natural theology. A recent writer, Professor Knight, himself a strenuous theist, is a representative of this class. He does not hesitate to say that the argument for a first cause belongs to the same class with the long-discarded arguments of Anselm and Descartes, and that it is not less illusory. But this ingenious writer seems to forget that the old *à priori* arguments were mere reasonings from conceptions of the mind, while the argument for a first cause, as here presented, is an argument from an external fact, a fact whose reality is

[1] [*Lectures on Metaphysics*, Lect. ii., page 19.]

not questioned, and whose existence demands explanation; and when he further claims that it is by an illicit process when, in the argument for a first cause, we rise from the finite to the infinite, he imputes to the argument a conclusion which it does not claim, for in the guarded form in which I have presented it, it has not been claimed for the first cause that it is infinite. From the universe as an effect, we have simply argued a cause, and all that we have undertaken to show further is that a mere sequence of second causes does not furnish what the reason craves. I concede that in the bare idea of a first cause we do not have the idea of God. Much remains to be done before this abstract and empty conception is filled out and completed to a full theistic conclusion. But the notion of a first cause is one essential step towards this result, and I conceive it to be a matter of no little moment, if the theories of force, with which modern science has made us so familiar, can be shown, after all, to be simply disguised forms of the old doctrine of a first cause, and to be but lame and impotent substitutes for that earlier conception. It is something to be assured that so far as science has established any theoretical conclusions, these conclusions confirm the doctrine that the universe must have had its origin in something back of itself, and that if science cannot herself give us the idea of a first cause, she has, at least, reached no conclusions inconsistent with it. The notion that the doctrine of a first cause has been wiped out by the modern theory of force, may be dismissed as a mistake.

LECTURE IV.

THE ARGUMENT FROM ORDER.

We have advanced thus far in our argument to the conception of a first cause, and if I have not failed of my aim in the considerations that I have presented, I have made it plain that this conception in some form is implied in any explanation that has been attempted of the origin of the universe as it now exists. The most opposite schools of thought agree in this, that if something exists, something must have always existed, and that the unceasing change which we witness on every hand can only find a sufficient ground in something that is unchangeable. The mind refuses to rest short of this solution. We have now to ask, what do we know respecting the nature of this first cause. Is it eternal matter, or is it eternal mind; is it force acting blindly, without direction and without aim, achieving its results by a natural development over which no conscious intelligence has presided, an eternal rhythm of evolution and of dissolution, or is it intelligence, intelligence above nature and working through it, making the operations of nature and the infinite manifestations of physical force subservient to its wise and all comprehending purposes?

It is evident that unless we can give some answer to this question, all that we have previously ascertained is little to the purpose. On the mere abstract

question of a first cause there is really no debate. The most extreme materialist at the present day is willing to concede it, provided that no attempt is made to define it. But if it remains undefined the theist has gained no advantage that is worth contending for. If we cannot proceed to clothe this first cause with attributes, if we cannot connect it with intelligence and with personality, we have not advanced a step in satisfying the demands of religion. In other words, a mere formal demonstration of the original source of existence has no theological value. It remains a colorless, unillumined admission, at best ministering comfort only to the speculative reason. And if it thus remains an absolute zero, inaccessible to inquiry, the blank ground of existence, it matters very little whether we insist upon regarding it as mind, or whether we identify it with the ether-realized forms of matter with which modern science has made us so familiar. Whether it be termed cause or force is a question of little moment.

We have thus far viewed the universe simply as one endless series of changes; let us now proceed to subject these changes to a closer examination. And what strikes us at the first glance is the universal prevalence of order. I say at first glance, for though the nature and endless manifestations of the order that runs through the universe are only partially perceived, after prolonged and elaborate investigation, the fact of the existence of this order is the first thing that strikes the observing eye. We are not more impressed with the great fact of change than with the fact that change everywhere proceeds in accordance with fixed and invariable rule. The first shepherds who watched their flocks under the

clear oriental sky, must have noted the fact that the stars in their courses marched in an orderly procession; and the earliest inhabitants of the earth must have waited with implicit confidence for each new rising of the sun that would bathe the world with light and call men once more to the labors of the day. And all subsequent advance of human science has been simply the following out of this first suggestion.

But this advance of science, without modifying the principle, has given it an immense extension. The earliest observers of the changes of the external world, while profoundly impressed with the prevalence of law, were hardly less perplexed with its frequent absence. If the outgoings of morning and of evening, if the solemn march of the constellations, if the waxing and waning of the moon spoke of regular and orderly succession, there were other changes which refused to be reduced to rule, and which seemed, to their uninstructed eye, signs of disorder and confusion. The flaming comet speeding unheralded across the sky was to them the portent of direful change. In its train were pestilence and war, and the fate of empires. It seemed a fearful intruder into the harmony of things. It has been the mission of science to extend further and further on every hand the reign of law, and to show that what at first sight appears most exceptional, most unaccountable, most incapable of being reduced to regular rule, is after all but another and more striking illustration of this principle, a principle which equally finds its illustration in the falling of a pebble to the ground, and the flight of a flaming sphere through the furthest removes of space.

And what is shown so clearly in the grandest works of nature is shown not less clearly in the least. I heard not long ago of a visit paid by one of the first of living botanists to a friend, whose summer home was on one of the most barren and rocky headlands of our stern New England coast. On his arrival, his host laughingly apologized for having invited him to a spot that presented so little opportunity for indulging his favorite pursuit, remarking that nothing grew there but a few imported trees, whose stunted growth seemed only to reveal the ungenial nature of the soil. "On the contrary," replied the guest, "I see much to reward me, and I will engage, before we sit down to dine, to gather three hundred distinct specimens of plants." And each of these, so small most of them that only the most practiced eye could detect them lurking in the crevices of the rocks, so delicate that scores of them were crushed under foot by each step of a careless child playing with his ball or driving his hoop, was fashioned in its growth in accordance with its own law, and could be recognized by minute differences of structure as distinct from each of its fellows, and illustrated in its way, not less than Orion and Arcturus, the order of the world.

But I am reciting mere commonplace when I say that order pervades the universe. It is obvious to the eye of the child led out by the hand for the first time to gaze at the starry heavens; it is the last thing noticed by the man of science whose optic glass has swept the flaming walls of space, or whose microscope has searched out the minutest forms of the vegetable or animal creation. And it is not only a fact of to-day, but runs equally back through

all epochs of astronomical or of geological time. It has been the common work of all the sciences since the day when man first assumed the great office of making himself the minister and interpreter of nature, to discover and to illustrate it. Science is in fact but another name for this progressive and ever extending knowledge of the order of nature, for there can be no science which is not an advance of knowledge in this direction. And it is the pride and boast of science that it is achieving this result, that with each new step it is bringing what seems irregular and exceptional within the realms of order, and demonstrating that what have passed for exceptions, when intelligently comprehended, are simply proofs of a larger and more comprehensive order.

Perhaps the most impressive result of this more scientific apprehension of the order of the world has been the ascertainment of the fact that the laws of the physical universe are laws of mathematical relations. Thus the law of gravitation, which rules the grains of dust in the sunbeam and the farthest orb that revolves beyond the reach of human vision, is a definite numerical law. The curves which the heavenly bodies describe in their revolutions around the sun and around one another belong to the class of curves known as the conic sections, — curves the proportions of which were investigated by geometers centuries before Kepler and Newton had revealed the true system of the heavens. The law of chemical combination always admits of precise numerical expression. Each color in the rainbow that spans the arch of heaven, and makes the heart leap up, is due to a certain number of vibrations within a given time, and so are the long-drawn notes of the organ

that uplift the soul in praise, or the accents of the human voice, melting with tenderness from a mother's lips, or thrilling the ear with the accents of anguish and despair. A crystal is frozen geometry, and the feathers in the wings and tail of the humming-bird are all numbered.

The universe everywhere reveals itself to us as a whole, all the parts of which are related to each other by precise and unvarying laws. The system of which our earth is a member is a vast and orderly system, the various parts of which are so adjusted, as regards mass and magnitude, and distance, and rate and plane of motion, that the whole is rendered stable and secure. And our solar system, so far as we can see, is only one of millions of systems, all as arranged and distributed in relation to one another as to secure the same result. While each orb is affecting the orbit of every other, while each is exerting a constant influence which, if left uncounteracted, would destroy itself and all the rest, all are balanced in their motions with such wondrous accuracy as to convert the element of danger into a source of strength. And so in the structure of matter we are everywhere confronted with the same system of definite proportions, no chemical union being possible except where the different elements bear to each other a definite numerical ratio. The least alteration of this proportion would convert the most wholesome substances into the most deadly poisons, and, instead of furnishing nutriment to animals and plants, spread everywhere destruction and death.

The reign of law is then the result which science has everywhere reached. It lies at the root of every

conception we can form of the universe, either without us or within us; for while regularity and order are most conspicuous in the grand phenomena of the external world, we are not less assured of their pervading presence in the most intricate and obscure processes of life. Beginning with astronomy, the idea has passed to every department of science, and to every domain of thought. It refuses to be excluded from any sphere where there is change and progress and growth. It meets us at every step. This order which science finds in nature may be described as either general or special; the characteristic of the former being regularity, and of the latter adaptation. In inorganic nature, general order is more apparent; in organic nature, special order. By some — for example, Professor Flint — these are treated simply as parts of the same argument; but it rather seems to me that they are distinct, and that the latter, which is termed the argument of design, derives its main support from the much more comprehensive argument from general laws. Order or regularity is a simple fact, while design is an inference from a fact.

The argument from order, strictly speaking, is a corollary of the idea of cause. If, as here seen, the changes in the phenomenal universe carry us back irresistibly to a cause not simply of each individual phenomenon, but of the phenomena as a whole, the order and regularity displayed in these phenomena in the same way suggest an intelligent cause. As the fact of order is universal and evident, so is the inference, if made at all, a necessity of thought. But the end for which things exist is not self-evident; it is the consequence of an induction. We

cannot, therefore, affirm that the principle of finality is universal and necessary, like the principle of causality. No doubt, the doctrine of final causes, if established, gives an immense support and extension to the argument from order, but the two arguments rest upon different grounds: one is the discussion of a product, the other of a process. I am therefore unable to agree with Professor Flint, that the arguments are essentially identical.[1] It is true that the argument from design rests on the recognition of nature as displaying order and adjustment, yet the two notions are not equivalent in the first instance. Thus no order is more rigorous than the order of mechanics, yet we have no proof here of final cause.[2]

Proceeding, then, first to consider the argument from order, at the outset we shall need to subject the conception of natural law to a brief examination. We are accustomed to use the term law in very different senses. Thus we apply it equally to describe physical, or moral, or juridical relations. We speak of the law which determines the velocity of a falling body, of the law which conscience will not suffer us to violate, of the law which the judge administers upon the bench. Perhaps the most general definition of the word is that made familiar to us by Montesquieu, "that laws are the necessary relations which arise from the nature of things." On the other hand, the late John Austin, who rigorously limited the definition of law to the commands of a superior, rejected Ulpian's explanation of the law of nature, and ridiculed as fustian the famous

[1] Prof. R. Flint, *Theism*, p. 158.

[2] Janet, *Final Causes* (Edinburgh, 1878), p. 12.

description in Hooker. If we restrict the term to its original and proper sense, law must be defined as the authoritative expression of will, enforced by power. But by long usage the term has come to have various derivative and secondary senses, and is now habitually used by those who would wholly reject its primary signification. It is only in these secondary senses that we speak of the laws of nature.

The primary and simplest sense in which the term "law" is applied to physical phenomena, is that in which it is used simply to express an observed order of facts, or, in other words, facts which under the same conditions always follow each other in the same order. This was the sense in which the word was used by the late Mr. Buckle, who seemed, at least in the earlier chapters of his work, to cherish the opinion that the mere accumulation of statistics was sufficient to furnish a basis not only for physical, but also for social laws. In this sense, the laws of nature are simply those phenomena which recur according to an empirical rule. For the application of the term in this sense, it is not necessary that the cause of this regular recurrence should be known or presumed. All that was required was that the order should be uniform and constant. The so-called laws of Kepler are illustrations of this application of the term. Beginning with strange, mystical views of the heavenly bodies, and supposing at first that the sun, stars, and planets were divinely constituted symbols of the doctrine of the Trinity, he was led by his instinctive search for harmony to recognize the remarkable mathematical relations between the distances of the different planets from the sun and the length of

their periodic times, and again between the velocity of their motion and the space inclosed between corresponding sections of their orbit. These were termed laws, but they were in reality simply an order of facts, established simply by observation, and not connected with any theoretical explanation : and the larger part of what are called laws, in every science, are simply facts of this description. Thus, in chemistry, the relation of different substances to each other in respect to combination and affinity, a relation which is simply the result of observation, and concerning which all that is known is that, under the same conditions, it will be manifested with the same regularity, is in the same way defined as a law.

But the ascertainment of this regularity leads instinctively to the search for a deeper explanation. For an observed order of facts, to be entitled to the designation of law, must carry with it the idea of some necessity out of which this uniform and regular result arises. Hence law comes to mean, in the second place, not only an observed order of facts, but a persistent force, from the constant operation of which as an arranging cause this observed order springs.

But the mind refuses to rest content with this. The conviction that some force lies thus at the bottom of all phenomena, causing them thus to recur with unfailing regularity, prompts us next to search out the rule or method by which it operates. Of law in this third sense we have a great example in that ascertained by Newton, the discovery of which ranks him so much above Kepler as a philosophical investigator. In the Newtonian theory of gravitation we have not merely a force, but a force accu-

rately defined according to the mode and measure of its operation, and from which other phenomena arise by necessary consequence. So that the law of gravitation was not merely an observed order, nor merely an abstract conception assumed as a necessity of thought, but a force the exact measure of which was numerically ascertained and defined. The three laws of Kepler were simply facts, the grand discovery of Newton revealed their connection and their cause. Yet laws in these three senses simply explain the order of subordinate phenomena. They set forth that order as due to force. But here they leave us. There are far more curious questions which they do not answer.

The law of gravitation is undoubtedly the grandest discovery connected with the material universe that the human mind has yet made. It is the most universal of all laws, for so far as we can see it pervades all space. It is the most familiar of all laws, for we cannot stir without confessing its operation. It has been analyzed with mathematical precision. We know, with certainty, that it is a force of attraction operating "directly as the mass and inversely as the square of the distance." Yet after all how little do we know about it! It gives us no explanation of itself. What is the cause of this force, which, so far as we can tell, pervades all space; what is the source of the power which it is ceaselessly putting forth upon worlds beside which our great globe itself dwindles in insignificance, and upon specks in the sunbeam which only the microscope reveals, through what medium it operates, how the exact uniformity of its operations is always and everywhere maintained, — all these are questions to which

science, as yet, cannot give us any answer. With strict and sober truth did Newton, after his great discovery, describe himself simply as picking up a few pebbles by the shore of a boundless sea.

Let us now turn to another fact quite as prominent as the universal presence and prevalence of law, and that is, the great variety of laws that exist around us on every hand, and are directly concerned in every operation of nature. For no one law determines anything that we see happening around us. Whatever happens is always the result of different and opposing forces, that are nicely balanced against each other. And the least disturbance in the proportion in which each one is allowed to operate, would produce a total change in the result. Thus, the force of gravitation would wreck our solar system did not another force act against it and keep the planets in their paths. And the more we study nature the more intricate do we find these combinations of opposing forces. The most recent physiological research seems to show that our very muscles are thus seats of two antagonistic powers, so arranged that the will by acting upon one may regulate the action of the other. We are fearfully and wonderfully made. Force combines with force to produce definite and orderly results. And thus we reach a fourth sense in which law is used to describe not mere individual force, but an adjustment of forces for the attainment of a definite end.

Nor can we stop even here. It is at once the instinct of mind and the business of science to rise from the visible to the invisible, from what we observe by sense to what we infer by reason. And here we reach a fifth meaning of the term law, where

it is used to denote some purely abstract idea which carries us up to a higher conception of what phenomena are, and how they are caused. There may be no phenomena known to us within the range of experience which actually correspond to such idea, and yet it may be logically implied in all phenomena around us. Thus what is termed the first law of motion, that all motion in itself is uniform in velocity and rectilinear in direction, is an abstract conception which no student of physics has ever seen exemplified, yet it is not the less essential to a true explanation of all the motions that are actually seen. It belongs to the class of purely intellectual conceptions which alone render intelligible to us this order of the material world. These conceptions have guided all great pioneers of science in the path of discovery. These happy guesses, which are but the intuitions of the finest minds, have their origin in an aptitude for comprehending the real facts of the external world under these purely abstract conceptions.[1]

Before passing from these discriminated senses in which we apply the term law to the material universe, there are two important considerations which should not be overlooked.

In the first place, that character of invariableness or immutability which we are accustomed to attribute to the laws of nature is true only in a single sense, and that is in the sense in which we use the term law to designate a single force. Thus gravitation, so far as we know, always operates according to a rigid mathematical rule. But when laws are not conceived of as single, but as combined, instead

[1] Duke of Argyle, *The Reign of Law*, chap. 2.

of being immutable in their operation they are the agencies of ceaseless change. To say, therefore, as is often said, that all phenomena are governed by invariable laws, is only to express a partial truth, since there are no phenomena within the range of human experience of which it can be strictly said that they are governed by an invariable force. That, on the contrary, which governs them is endlessly varying combinations of invariable forces. There is no observed order of facts which is not due to a combination of forces, and there is no combination of forces which is not capable of infinite change. If it be true that laws are invariable, it is not less true that they are subject to endless variation.

The second consideration is that, so far as we can see, no result is ever attained in nature except through the agency of law. There is nowhere anything forced, anything sudden, anything fortuitous. All phenomena with which we are acquainted are due to causes, and these causes are combinations of invariable forces. In the organic world all things around us grow. This is not more true of the familiar operations of nature, which we see on every hand, than of the extraordinary results which at first startle and perplex us. In this respect we simply copy nature. The most elaborate and intricate machines contrived by human wit are simply combinations of natural forces for producing some desired result. The "light out-speeding telegraph," which leaps across the frosty Caucasus and glides beneath the oozy bottom of the deep, is nothing but a contrivance for putting natural forces in operation; and the electric ray, with its cunningly devised battery of hexagonal cells, subdivided by horizontal plates,

is nothing more. The laws enlisted in the works of nature are many, and various and complicated; our knowledge of them and of their mode of operation is very limited, but we find no result that is not reached through their agency.

Up to this point in our argument there is no dispute. The theist and his opponent are equally agreed in the interpretation of nature that has been thus far presented. Both are ready to admit that the universe considered as a whole presents this characteristic of order and uniformity, that its phenomena are in all cases due to the operation of invariable laws or forces, and that the operation of these forces proceeds in accordance with methods and principles which demand for their explanation the most refined analysis of modern science. The question now arises, how shall this be explained. What hypothesis shall we adopt to account for the universal presence alike in the most sublime and in the most insignificant of nature; processes of what in human operations we should ascribe without hesitation to a directing mind? Shall the external world be regarded as the expression of a supreme intelligence, an intelligence which has reflected itself in the wondrous order and in the harmonious combinations, and in the intricate mathematical relations which the works of nature undoubtedly display; shall the laws which mind alone can recognize be accepted as the necessary products and operations of mind?

No one questions that this would be the natural and logical conclusion in dealing with any results due to human or finite agency. Have we a right to carry this reasoning into the transcendent region of the Infinite? Here let it be noted that the inference

which the theist undertakes to draw from the existence of order in the universe, is simply the inference of an intelligence that produced that order. It is, therefore, an unfair objection to urge that the argument cannot prove anything as to the creation of the universe, but only as to its fashioner, that it only goes to show that mind was concerned in the orderly disposition of that which previously existed. Let what has before been said be borne constantly in mind, that the argument for the being of God is manifest, and this inference from the order and harmony of the world is only part of it. The argument for a first cause has already been considered, and the present argument does not undertake to stand apart from that. It must be admitted that the immediate inference from the order of the universe is to an intelligent framer of the universe, not to a creator; but if the order of the universe cannot have originated with matter, the intelligence which formed it must have been an eternal intelligence.

The argument which we are now considering from the order of the universe may be concisely stated in these words: there must be a Supreme Mind, because such and such organic structures must in some way have been ultimately due to intelligence. And not only so, but every phenomenon in the universe must have been due to the same source, since all are alike subject to the same method of sequence, so that the argument becomes connective, and the united effect of so vast a body of evidence is to point us irresistibly to some *one* explanatory cause. The scope of the argument is, the force, coextensive with the universe; and it is not surprising that some of the most earnest of the recent opponents of theism

have recognized this as the most formidable weapon drawn from the armory of natural theology. It is admitted that the perpetual and uninterrupted uniformity of method is a cogent if not a convincing proof of a presiding intelligence, since the progress of science has rendered the hypothesis of fortuity irrational. "And let us think of this Supreme Causality as we may," says one of the ablest of these, "the fact remains that from it there emanates a directive inference of uninterrupted consistency, on a scale of stupendous magnitude and exact precision, worthy of our highest possible conceptions of Deity."

This argument from the order of the universe has received so powerful and lucid a statement from Baden Powell, that I cannot do better than borrow his words:—

"The very essence of the whole argument is the invariable preservation of the principle of *order;* not necessarily such as we can directly recognize, but the universal conviction of the unfailing subordination of everything to some grand principles of law, however imperfectly apprehended in our partial conceptions, and the successive subordination of such laws to others of still higher generality, to an extent transcending our conceptions, and constituting the true chain of universal causation which culminates in the sublime conception of the Cosmos.

"To a correct apprehension of the whole argument, the one essential requisite is to have attained a complete and satisfactory grasp of this one grand principle of law pervading nature, or rather constituting the very idea of nature; which forms the vital essence of the whole of inductive science, and the sole assurance of those higher inferences from the inductive study of natural causes, which are the indications of a supreme intelligence and a moral cause.

"The whole of the discussion must stand or fall with the admission of this grand principle.

"If we read a book which it requires much thought and exercise of reason to understand, but which we find discloses more and more truth and reason as we proceed in the study, and contains clearly more than we can at present comprehend, then undeniably we properly say that thought and reason exist in that book irrespectively of our minds, and equally so of every question as to its author or origin. Such a book confessedly exists, and is ever open to us in the natural world. When the astronomer, the physicist, the geologist, or the naturalist notes down a series of observed facts or measured dates, he is not an author expressing his own ideas, he is a mere amanuensis taking down the dictations of nature; his observation book is the record of the thoughts of *another mind;* he has but set down literally what he himself does not understand, or only very imperfectly.

"That which requires thought and reason to understand must be itself thought and reason. That which mind alone can investigate or express must be itself mind. And if the highest conception attained is but partial, then the mind and reason studied is greater than the mind and reason of the student. If the more it be studied the more vast and complex is the necessary connection in reason disclosed, then the more evident is the vast extent and compass of the intelligence thus partially manifested, and its reality, as existing in the immutably connected order of objects examined, independently of the mind of the investigator.

"But considerations of this kind, just and transcendently important as they are in themselves, give us no aid in any inquiry into the *origin* of the order of things thus investigated, or the *nature* or other attributes of the mind evinced in them."[1]

[1] *Order of Nature*, by Baden Powell, quoted by "Physicus" in *Theism*, pp. 47–51.

We need to note carefully the precise scope of the argument here presented. It simply infers from the order of the universe the presence of intelligence. It claims to go no further; it makes no conclusion respecting the nature or attributes of this creative mind. Hence we may at once dismiss as irrelevant some objections which have been urged against this reasoning. One of these objections is, that since the universe, as a system of order, is finite, we have no right to infer that the author of this system is infinite. The argument from order does not undertake to prove this. It simply claims that the order shown in the universe points unmistakably to intelligence as its source. The inference here is as direct, as valid, as the inference from the intelligence displayed in any human work. When, therefore, writers like Mr. Spencer argue that the cause of the universe cannot be known to be intelligent because the reason of man, being finite, cannot comprehend the infinite, they forget that human reason, while it can never comprehend the infinite, can comprehend such manifestations of the infinite as come within its range. A man may infer that the author of Hamlet was intelligent without professing to sound all the depths of Shakespeare's mind.

It may be, and indeed it seems highly probable, that the entire visible universe, as disclosed to us by the farthest search of our most powerful telescopes, the system or systems that spread out before the bewildered eye of the astronomer as he considers the starry heavens, are but the local product and temporary phase of a far greater universe which is itself but part of another, till even imagination droops; but this does not render any less convin-

cing the evidences of intelligence presented to our view. It may be that in these other systems there are manifestations of intelligence, not only unlike any that are presented to us, but manifestations which our faculties have no capacity for apprehending; but this would not weaken in the least such inferences as our finite minds might be capable of drawing. The whole stupendous order of that nature which we survey may be but a ripple across the universal and illimitable action of the mind which manifests itself in all things; but while our limited and partial and finite comprehension can never include all this, we are not shut up to the conclusion that we can draw no inference at all from the order and harmony which we see everywhere above us and around us.

Mr. Mill would have us think that the order of the universe, so far as it reveals a combination of the invariable forces of nature to produce a special end, not only does not prove that the Intelligence that presided over this was infinite, but even affords convincing proof that it was limited and finite. "There is in nature," he says, "no reason whatever to suppose that either matter, or force, or any of their properties, were made by the Being who was the author of the causations by which the world is adapted to what we consider as its purposes; or that he has power to alter any of those properties. It is only when we consent to entertain this negative supposition that there arises a need for wisdom or contrivance in the order of the universe. The Deity had on this hypothesis to work out his ends by combining materials of a given nature and properties. Out of these materials he had to construct

a world in which his designs should be carried into effect, through given properties of matter and force, working together and fitting into each other. This did require skill and contrivance, and the means by which it is effected are often such as justly excite our wonder and admiration; but exactly because it requires wisdom it implies limitation of force, or rather the two phrases express different sides of the same fact."[1]

It is difficult to treat with seriousness an argument which when analyzed will be found to be destitute of force. What it amounts to is simply this: that working toward results in regular and orderly methods is proof of limitation in a being who, if infinite, could achieve results by a direct and immediate exercise of power. In other words, if every chicken were called into being by a creative fiat we might infer that the power was infinite to which such a phenomenon was due; but if this power chose to endow the egg with the potency by which in accordance with invariable law the chicken was to be produced, we are bound to infer from such resort to an indirect method of production, that it was shut up to the employment of natural agencies, and hence was finite. Aside from the strange omission to note that all the natural agencies called into requisition to produce a definite result are themselves the very proof of the intelligence on which the argument insists, this objection fails to recognize the simple principle, that in producing any definite results infinite power must always work under limitations, limitations not in the power, but in the method adopted and in the end purposed.

[1] *Essays on Religion*, p. 178.

These objections, however, as I have said, have nothing to do with the argument which we are now considering. What that argument undertakes to prove is simply that the order of the universe had its origin in intelligence. On the further question whether that intelligence is infinite or finite, it undertakes no decision. True, the argument from order, if admitted as conclusive, must carry with it the irresistible conviction that the intelligence thus everywhere manifested in the works of nature must be an intelligence far surpassing any capacity of finite mind to measure or search out. He would be rash and presumptuous, indeed, who even from the things that are seen would venture to fix any limit to it; and when we bear in mind how small a part the things that are seen are of the whole universe of things that are unseen, the conclusion is one to which the reason is inevitably led; but this conclusion, whether legitimate or not, is no part of the argument which we are now considering. And to ascertain how far this argument is valid, it is important for us not to confuse it with inferences, or with objections that are not directly connected with it. We are only considering the proof of intelligence.

The order and harmony everywhere apparent in the universe are conceded facts. Those who refuse to refer them to intelligence are bound therefore to account for them in some other way. To say that they originated with chance, is an explanation so manifestly absurd that it need not be considered. To believe, as some of the ancients professed to do, that this universal frame had its origin in the fortuitous concurrence of primordial atoms, which after passing through infinite combinations presented at

last this present world, implies a degree of credulity such as no religious system has ever yet exacted of its votaries. Supposing the ultimate molecules of matter to have existed from all eternity, they might, by chance contact, have produced from time to time some strange combinations; but to suppose that a universe, such as science reveals to us, so real, so intricate, so harmonious, so stable, could have been called into being by the operation of blind chance, is a hypothesis that no man in his senses, at the present day, would think for a moment of maintaining. If modern science has done nothing more, it has at least passed a final sentence of condemnation upon Democritus and Epicurus.

To account, then, for this order and harmony everywhere so apparent in the external world, we are shut up to one of two hypotheses: the hypothesis of mind, working through the forces of nature and co-ordinating them into a mutual adjustment, or the hypothesis of matter endowed with inherent powers and potencies, and working in an endless succession of combination and dissolution. There is no other explanation possible, and in the present state of speculative opinion no other explanation is proposed. The choice lies between intelligence and blind force; between reason enthroned above physical causation and the unconscious working of purely natural laws. And this brings us to the latest and most powerful assault that has been made upon the argument from order, an assault springing directly from the modes of scientific thinking so current at the present time. In this the problem, which the order of the universe presents to human reason, is not solved but rather set aside by an attempted indication of the process

by which that order has been brought about. It is claimed that this order is sufficiently accounted for when its physical antecedents have been traced back to their presumed beginning.

In view of these conclusions of modern science, to which reference has been already made, it is claimed that every law controlling the universe both of matter and of mind follows as a necessary consequence from the persistence of force and from the primary qualities of matter. It is conceded that a generation ago the argument from the order of the universe, so lucidly presented by Baden Powell, must have been accepted as irrefutable. With the conception of matter which then prevailed, the most rational explanation of this order would have been the hypothesis of an eternal mind. But in the light of recent physical discovery all this is changed, and the argument so long and so generally received "that that which it requires thought and reason to understand must itself be thought and reason," must be forever abandoned by reasonable men. Hitherto the objections to this argument have been mere guess or unwarrantable assertions; but now it is claimed they are no longer a matter of unverifiable opinion, but are sure as the most fundamental axiom of science. That the argument from the order of the universe will be henceforth inadmissible in scientific thinking cannot be a matter of question. Let us glance at the grounds for these strong assertions.

The problem before us is to account for a universal order existing independently of mind. If we interpret, we are told, the harmonious and mutually related phenomena of nature only by the facts which science has revealed, we are driven to this conclu-

sion, that from the time when the process first began every subsequent change or event was bound to ensue, else the doctrine of the persistency of force must be abandoned. But how did this process first begin. In the primeval generation of the universe there was probably in existence not more than one of the forces which we term natural laws. This was gravitation. It matters not, whether there was ever a time when gravitation, or matter as we now know it, did not exist, for if there was such a time there is every reason to conclude that the first matter owed its existence to law. Nor is it of any consequence how the law of gravitation came to be associated with matter, for it is overwhelmingly probable that if we could push our examination far enough it would be found to follow as a necessary deduction from the primary qualities of matter and force. We need only to start from the three data which science furnishes, — matter, force, and gravitation, and ask the question what next must happen?

Science affords us strong grounds for the assumption that the matter which makes up our solar system primordially existed in a highly diffused form. It was an ethereal cloud of indefinite and immeasurable magnitude. By mutual gravitation, the substance of this cloud began to concentrate upon itself. It is frankly conceded, that what is termed the nebular hypothesis is not beyond dispute, and that all positive knowledge of the genesis of our solar system is still of the crudest and most uncertain character; still it is claimed that the theory that evolution in some form has been the method of the formation of the universe is placed beyond reasonable doubt, and hence, that the inferences to be drawn from it

are as certainly true as if we were acquainted with each step of the vast process. "Given," says Mr. Herbert Spencer, who may be selected as undoubtedly the foremost representative of the view which we are now considering, "a raw and widely diffused mass of nebulous matter, and what are the successive changes that will take place? Mutual gravitation will approximate its atoms, but their approximation will be opposed by atomic repulsion, the overcoming of which implies the evolution of heat." That is, the condensation of the nebula originates new dynamical relations among its constituent parts.

"As fast as this heat partially escapes by radiation, further approximations will take place, attended by further evolution of heat, and so on continuously; the processes not occurring separately, as here described, but simultaneously, uninterruptedly, and with increasing activity." But the previous essential conditions remaining the same, the new relations now established would, of necessity, give rise to new laws, by which is meant, simply, the occurrence of similar effects under similar conditions. Hence, "eventually this slow movement of the atoms towards their common centre of gravity, will bring about phenomena of another order.

"Arguing from the well-known laws of atomic combination, it will happen that, when the nebulous mass has reached a particular stage of condensation, when its internally situated atoms have approached to within certain distances, have generated a certain amount of heat, and are subject to a certain mutual pressure, some of them will suddenly enter into chemical union. Whether the binary atoms so pro-

duced will be of kinds such as we know, or whether they be of kinds simpler than any we know, which is more probable, matters not to the argument. It suffices that molecular combinations of some species will finally take place."

On the process here traced is based the doctrine, that the self-generation of the laws of nature is a necessary corollary from the principle of the persistence of matter and force. For just as in the beginning of the process, the proto-binary compounds of matter gave rise to new relations, involving of necessity their appropriate laws, so throughout all the subsequent stages of the unceasing evolution, as often as matter acquired a new state, or as often as in any of its former states it was thrown into new relations, laws which before were non-existent and impossible, became at once both possible and necessary. And since there is no reason for fixing a limit to the process once begun, if there be only time enough allowed, we arrive at last at the marvelous complexity of things that we see around us. All its harmony and order are the product of endless modifications of the original matter and force in which the whole process had its origin. "For aught that speculative reason can ever show to the contrary," says the author of "Theism," "the evolution of all the diverse phenomena of inorganic nature, of life and of mind, appears to be as necessary and as self-determined as is the being of that mysterious Something which is Everything, the entity we must all believe in." [1]

Let it be remembered that, according to this theory, human intelligence, like everything else, has

[1] "Physicus," *Theism*, p. 57.

been evolved. Mind is just as much the result of this long process as heat or magnetism. For the evolution of intelligence is simply the establishment of more and more numerous and complex psychological relations. When, therefore, the question is put, must not the order and harmony of the external universe be due to mind, since it requires mind to interpret and understand it; the answer is, that if the mind was itself evolved from these relations existing in the material universe, being ever continuously moulded into conformity with them as the very condition of its existence, then its process of interpretation is simply reflecting in consciousness these external relations. In other words, granting that such orderly relations exist in the external world, whether with or without mind to account for them, then the mere fact of our conscious intelligence being able to recognize relations in the outer world, answering to those which they have themselves caused in our intelligence, does not warrant the conclusion that these external relations are caused by an intelligence similar to our own. The thought of the mind within, simply answers to the order of the world without, and both are due to precisely the same cause.

Hence the final conclusion which we reach is this: if all the laws of the universe are self-evolved, including among them the laws of mind as well as the laws of the external world, and if human intelligence is simply a subjective photograph of certain of the relations of the external world, then nothing is more natural than that the correspondence between the two should give rise to the impression that the external world instead of being itself the cause of that

conformity, should be itself the effect of some common cause. Human intelligence being itself required to think and act in conformity to law, confounds the mere fact of action in conformity to law, wherever manifested in the external world, with the existence and action of a self-conscious intelligence. Reading in external nature innumerable examples of action in conformity with law, it draws the unwarrantable conclusion that because its own consciousness reveals intelligence acting according to law, therefore all action according to law must proceed from intelligence. But it by no means follows as a logical conclusion, that because the phenomena of the external universe admit of being intelligently inquired into, they are therefore of necessity due to an intelligent cause. Hence, admitting the fundamental axioms of science, the hypothesis of intelligent cause is needless to explain the varied phenomena of existence.[1]

In considering the objection to the argument from order here presented, I will not pause to show that it involves a series of assumptions of the highest moment, most of which have not passed from the region of mere hypothesis. Thus the assertion that mind is evolved from matter is one of which, it is needless to say, there has been as yet no proof presented. But, for the sake of the present discussion, we may concede the general truth of the theory of evolution. It is not indeed a theory, but a fact, certain as any that science has established, that creation has a history, and that this history presents unmistakable evidence that the universe as it now stands was not due to a single act done once for all,

[1] "Physicus, *Theism*, p. 63.

but that it is a work which has been continuously and progressively pursued through inconceivable epochs of time. So far as it is possible for us to trace back this impressive record, it presents to us the same story of one age succeeding another, and one system of relations formed out of previous systems. And it is not less certain that these progressive changes have followed an orderly method. The annals of creation, whether considered in the organic, or in the inorganic world, are inscribed on every page with the impressive truth that creation has been in accordance with law.

But admitting all this, as we are bound to admit it, what conclusion follows. Because creation has proceeded according to law, shall we infer that intelligence has been absent from it. To ascribe the origination of order simply to law is clearly an evasion of the real problem. For order and law in nature are the same thing, and law is the very thing to be explained. What we call the laws of nature are not the causes, but the expressions of order. Accepting the account of the origin of natural law which Mr. Spencer gives us, laws are simply the results of delicate adjustments, infinitely but harmoniously varied. The existence of a law, in every case, presupposes the coexistence of several conditions, and of conditions that are themselves always related to each other in a way that itself demands explanation. Besides, laws do not act of themselves. It is always that which acts according to law which produces the result, and the nature of the result depends upon the number and character of the agents, and the manner in which they are disposed in relation to one another. Matter might

be endued with all its laws and yet only confusion and chaos result from their operation. Hence, the mere laws of nature furnish no rational explanation of the order and harmony that exist.

All are ready to concede that creation, as its history stands revealed to us, is a process, a process to which science can assign no beginning, and of which it is as little competent to determine the end. But it is a wholly erroneous assumption that we account for the origin of this process when we simply trace the method according to which that part which is revealed to us proceeds. This method is precisely the feature which we have to account for. That the result is arrived at through appropriate conditions, which is all the conclusion that science reaches when it attempts to unfold the so-called laws of nature, does not in the least explain what it was that combined these conditions so that the result should follow. We may grant that the nebular theory implies the law of gravitation, and that gravitation has determined the cause of cosmical evolution; but evidently this marvelous result could have followed only on the theory that the nebula originally possessed a definite constitution; that its constituents, whatever they may have been, were endowed with certain properties and were disposed in fixed relations, so that, in effect, we have at the outset an order to account for just as truly as in any stage of the subsequent process.

If we do not accept this view, we are thrown back upon the alternative of regarding the existing order of the universe as one special result among infinite possibilities of disorder, produced by the mutual interaction of atoms of matter through eter-

nal epochs of time. We must conceive of these atoms as passing through all possible combinations, till at last, after an infinite number of failures, they have fallen into a harmonious arrangement. But this is simply to fall back upon the solution of the ancient atomists. "For verily," says the great expounder of this theory, Lucretius, "not by design did the first beginnings of things station themselves each in its right place, guided by keen-sighted intelligence, nor did they bargain, sooth to say, what motions each should assume, but because many in number, and shifting about in many ways throughout the universe, they are driven and tormented by blows during infinite time past; after trying motions and unions of every kind, at length they fall into arrangements such as those out of which this our sum of things has been formed." [1] Moreover, this hypothesis has nothing whatever to support it in what we observe of the process of nature. What we find everywhere attested is not blind chance, but the reign of law.

Dismissing as utterly untenable and irrational the theory of chance, the two alternatives to which we are shut up to account for the wondrous order and harmony of the universe, are the alternatives of mind or of matter. The theory of the persistence of force, which is brought forward as supplying a cause sufficient to account for this, if it means anything, means one of these two. It is either force directed and controlled by intelligence, or physical force working blindly. But when we ask, as we surely have a right to do, what is precisely meant by this mysterious and indestructible potency, which is thus

[1] [Lucretius, *De Rerum Natura*, book i., 1021–1028.]

represented as adequate to all the work of creation, we get no definite answer. "The word force," Mr. Lewes tells us, "is a symbol which has many meanings. It varies in different works, and often in different passages of the same work. Sometimes it stands for the unknowable, whose manifestations are the objective universe; sometimes it is the common measure by which all phenomena are rendered intelligible; sometimes it is an imaginary entity, supposed to take up its habitation in substances, passing freely from one to the other; sometimes a peculiar kind of matter, very subtle, and endowed with qualities wholly unlike those of ordinary matter; sometimes it is a simple synonym of cause sometimes of strength, sometimes of motion, now confounded with and now distinguished from energy." [1]

If, indeed, by conservation of force we mean conservation of actual energy, the doctrine is by no means universally admitted. There is a broad distinction between the statement that the sum of energies remains unaltered, and that the quantity of force remains always the same. For example, to make heat efficient we must have hotter and colder bodies. As soon as all bodies are reduced to the same temperature, though the sum of energy remains the same, its efficiency or force is gone. For no transformation from one body to the other is longer possible. Now, according to very high authority, there is a tendency in the universe, from the constant radiation of heat, to a uniform temperature; in other words, the time is coming when transformation of heat will cease, or when force will be

[1] [*Problems of Life and Mind*, 1st Series, vol. ii., p. 307.]

exhausted. But since all the phenomena of life are due to this transformation, this is the same as saying that the time is coming when the universe, as it now stands, will no longer exist. And if the present system of things must thus have a definite ending it must also have had a definite beginning. So the notion of an eternal rhythm of evolution and dissolution based on the doctrine of the persistence of force wholly falls to the ground. Physical science itself, rightly interpreted, gives no support to the theory.

LECTURE V.

THE ARGUMENT FROM DESIGN.

I HAVE thus far aimed to show from the order and harmony everywhere pervading the universe, that it must have had its origin in mind; for no other explanation will account for a result so marvelous. This order, to repeat what has been said before, is both general and special, the former showing itself in regularity and the latter in adjustment. Of the former, astronomy gives us the most perfect illustration; for the latter, the examples are furnished us in all the departments of organic life. While it may be urged that regularity and adjustment are, after all, but different aspects of the same thing, since the most specialized adjustments of organic structure always presuppose the most general uniformities of physical nature, yet even then such difference exists between the two arguments as to warrant a separate treatment. The former argument infers the universe to be an effect of mind because it is characterized by order and harmony, the latter draws the same inference because the parts of which the universe is composed are so collocated and combined as to coöperate in the attainment of certain results.

We now proceed to consider this second phase of the general argument, or, as it is commonly termed, the argument from design. This designation, however, though common, is inaccurate, since the argu-

ment is not an inference from design, but an argument to prove design. To assume that the external universe furnishes proof of design, and then from this to reason back to a designer, is simply to beg the question. In the external world we have law, order, and arrangement, but design can have no existence save in intelligence. What is properly meant by design in nature are simply certain characteristics which are held to be indications of intelligence, and which further imply such adaptation and fitness as show that the result reached was a foreseen effect. From this point of view the argument of design is also termed the argument from final causes, meaning by this the end for which anything exists. Thus if I form a purpose to write a book, to build a house, to pursue a course of study, this purpose, if realized, will be the end of a series of steps or actions, and, by a secondary signification, this end is made to signify a purposed result.

The phrase, "argument from final causes," now in common use, is also not free from objection. The expression "final cause" is an inheritance from the scholastic philosophy, and is used in senses not always carefully discriminated. It is sometimes used as signifying certain aspects of order or adaptation, and sometimes as signifying certain aspects of design or intention. And in either of these senses, it may refer to the intrinsic, the extrinsic, or the ultimate end of things. Thus, viewed simply as the intrinsic end of what is orderly and established, the stability and movement of the solar system may be termed the final cause of the arrangement by which that result is secured. So sight is the final cause of the eye. On the other hand, final cause may mean not merely

the end of an arrangement in itself, considered as a completed whole, but its relation to something else, or the end which it serves as a system included in other systems. If we admit one, we must admit the other, for nothing in nature stands alone; it is a system composed of systems within systems. Hence the distinction between intrinsic and extrinsic ends exists, after all, not so much in the nature of the things themselves as in our way of looking at them.

In either of these two senses, we may reason legitimately from final causes. When we affirm the existence of final causes as intrinsic ends, we simply affirm that things are systematic unities, the parts of which are definitely related and coördinated to a common result. When we affirm the existence of final causes as extrinsic ends, we simply affirm that each system is related to other systems, forming parts of larger systems, and adjusted to more comprehensive results. In this sense, final causes are in things; but when we affirm them in the sense of design, they are not in things, but can only exist in a mind. The final cause of a thing may also mean neither its intrinsic nor its extrinsic, but its ultimate end, that is, its destination independent of any of the relations or uses which science can trace. But while speculation with regard to final causes in this latter sense may be legitimate within certain bounds, it affords us little help in proof of a supreme intelligence; for any proof must rest on what we actually perceive, not on what we are able to conjecture. Only after we have ascertained the Divine existence and attributes can we draw any inferences with regard to ultimate ends.

And here two things should be observed: *First*,

that the argument of design is not, as often represented, a mere argument from analogy. Thus it is said that in this argument we infer, from the likeness which certain natural objects bear to artificial objects, that there must be a likeness in their causes. We know that a watch can only be the work of an intelligent maker, and hence, from the wonderful adjustments in the hand or the eye, we conclude that they in like manner must have been framed by an intelligent being. But, whatever analogy there may be between the operations of nature and the works of man, as part of the design argument it is rather a means of illustration than a condition of inference. When we infer that the eye, or the watch, are the work of an intelligent being, there is an inference in either case, and an inference of precisely the same nature. It is as direct and as independent in the one case as in the other. We have no more direct perception of the intelligence of our fellow beings than we have of a supreme mind. It is, therefore, impossible that our knowledge of the one should be dependent on our knowledge of the other. In both cases it depends on the immediate consciousness of intelligence in ourselves. Hence the argument of design rests directly on the character of the works of nature.

In the second place, the argument of design cannot be regarded as resting upon an *a priori* or intuitive basis. In other words, we cannot rank final causation with efficient causation as a first principle or axiom of thought.[1] That there is in the universe an intelligent and wise adaptation of powers and laws to rational ends is not an intuitive principle,

[1] See Porter, *Human Intellect*, pp. 594-599.

but a conclusion drawn from observation. To assume the relation of means and ends to be true of every event and being in the universe, is to assume precisely what we are undertaking to prove. The principle "that every being has an end" has neither the evidence nor the necessity of the principle "that every event has a cause." While causality is a principle, finality is the result of an induction.[1] Finality, in other words, is a law of nature, not a law of reason. It must be sought and established by analysis and discussion. "The design argument," says Mr. Mill, "is not drawn from mere resemblances in nature to the works of human intelligence, but from the special character of those resemblances. The circumstances in which it is alleged that the world resembles the work of man, are not circumstances taken at random, but are particular instances of a circumstance which experience shows to have a real connection with an intelligent origin, the fact of conspiring to an end." Hence he terms it an inductive argument.[2]

This confusion of opinion with regard to its meaning and scope is undoubtedly the main cause of the discredit which has been attached in our time to an argument which has been advanced and defended for two thousand years. In the minds of many it has been connected with such unintelligible or preposterous conclusions that it has been set aside as destitute of any logical basis. It is thus of the utmost importance to understand clearly, at the outset, what this basis is. The argument of design, then, is simply this: that there is a certain interpretation which the

[1] Janet, *Final Causes*, p. 8.

[2] *Three Essays*, etc., *Theism*, p. 170.

facts of nature themselves call for and necessitate, the interpretation or explanation which attaches to manifest arrangement and adaptation. This explanation adheres to the facts of nature, and cannot be separated from them. It is stamped upon these facts. In this sense, and in this only, is it claimed that design or finality is in things. It is not an explanation of nature derived from theory, but one forced upon the mind by nature itself. By the constitution of our minds, and by the laws of thought, we are forced to put this construction upon the facts presented. Just as we connect uniform recurrence with law, so we connect manifold coincidence and adaptation with design.

Bacon's familiar comparison of the search for final causes to vestal virgins, who were consecrated to God and barren, has done much to discredit the argument of design; but what Bacon meant was simply that the student of nature should not be diverted from the investigation of efficient causes by the suggestion of ends or adaptations, for the appropriate work of the interpreter of nature is to trace the connection of natural agents and laws. And in taking this position no one doubts that Bacon was right. For he was dealing with a set of inquirers who refused to recognize the physical cause of a fact as a subject of inquiry on the ground that the final cause was a sufficient explanation. This was to put an end to all scientific progress. But the maxim which he applied only to the separate items of nature has been extended since his time to the whole system of nature, while it is the agreement and concurrence in the system of the separate facts which constitutes the whole force of the argument. That Bacon did not

deny that nature, in this sense, is penetrated and illumined by the evidence of design is proved clearly enough by his own words: "For while the mind of man looketh upon second causes scattered, it may sometimes rest in them and go no further, but when it beholdeth the chain of them confederate and linked together, it must needs fly to Providence and Deity." [1]

The definition here given of the argument of design at once removes one of the most common objections to it. Design, it is said, is a human conception, the essential offspring of a mode of thinking which belongs to a limited intelligence. What right have we to attribute this to an infinite being; what ground have we for connecting this characteristic with the supreme intelligence? This objection, though urged by writers in our own time (for example, Lewes), is by no means new. Even Descartes, who sought to base an argument for the existence of God upon innate ideas, rejected the argument of design on the ground that we must know God before we can attribute design to him. But, if we keep clearly in our minds the principle already laid down, that design is an explanation which adheres to the facts of nature as they are manifest to us, this objection is stripped of all its force. If, by the constitution of our minds we are compelled to put a certain construction upon certain facts, no insoluble problem which lies beyond can hold us back from the plain and irresistible inference. We do not need to know the infinite to argue from facts. We start from the finite, not from the infinite, side of the problem; we assume no knowledge of an infinite mind, but simply argue towards it.

[1] [*Essays*: "Of Atheism."]

The question which we are discussing is not whether nature had an infinite designer, but whether we find in nature evidences of design. "The idea of infinity," as Dr. Mozley truly remarks, "combines two great and startling opposites: that of being the most religious, and that of being the most skeptical idea of the human mind. On the one hand, it is the foundation of all that is transcendental and aspiring in human prospects; on the other hand, it is the destruction of it all." [1] Thus, on the one side, it has been the favorite idea of religious minds, while on the other it is the great undoer, the great reverser, of all the religious verdicts of reason. Infinity thus becomes nature's great recantation, whereby she gives up what she held, and acknowledges herself mistaken and deceived. But into this unfathomable deep we are not required to plunge. We are not determining the scope of the designing mind which nature shows. For it is evident that, if we cannot argue up to a designing mind till we have first argued down from one; if we cannot interpret the facts of nature till we have explained the mind which formed nature, then the argument of design would have no validity until it had ceased to have any value.

If the principle of final causes were, as has been claimed by some, an *a priori* principle, we should apply it at once to all phenomena, but this is not the case. In a great number of instances phenomena have no end that we can recognize, or do not at once suggest the notion of an end, while in a multitude of other cases this notion is suggested to the mind of the observer with irresistible force. We

[1] [*Essays*, etc., vol. ii., p. 381.]

have, then, to ask the question, what is it that makes this difference, what is it that warrants us in recognizing this characteristic in some cases and not in others. We see everywhere in nature not only effects but a harmony and coincidence of effects, and reason refuses to admit that this coincidence itself can have followed without a cause. The mind not only requires a cause to explain phenomena, but a cause to explain the order of phenomena. Yet, in this combination simply, we have no suggestion of finality. For example, the geometrical shapes which minerals assume in crystallizing do not directly suggest the notion of design. It is a phenomenon that seems only related to the past. So far as our observation reaches it is a phenomenon absolutely finished, though doubtless, in the strict sense, this is true of none of nature's works.

On the other hand, when a combination of phenomena has, besides, the evident character of having been determined to a future phenomenon, no matter whether near or remote, reason demands an explanation not only of the order or arrangement but equally of that relation to a future effect which has given it its determinate form. But this correlation cannot be explained unless the resulting phenomenon, in some sense, preëxisted in the cause; and when the combination, to become intelligible, is thus referred, at the same time, to its anterior cause, and to its future effect, we have not simply a relation of cause and effect, but a relation of means to end. When a great number of phenomena, very different in every other point of view, yet present one common and constant circumstance, this circumstance may be given as the cause. "We are warranted," says Mr.

Mill, "by the canons of induction in concluding that what brought all these elements together was some cause common to them all."[1] Hence it follows that the criterion of final cause is the determination of the present with reference to the future. In other words, "the agreement of certain phenomena, bound together with a future phenomenon, implies a cause in which that future phenomenon is ideally represented."[2]

Let us now glance at some of the more obvious facts in nature which seem to illustrate this determination of phenomena with reference to a definite and future end. The operations of nature in which the character of finality is most strikingly displayed are of two kinds: functions and instincts. The former are shown in the interior operation of organs, and the latter in their exterior actions. In the former that which is most striking is the structure, while in the latter it is the operation. These illustrations, for the most part, are so obvious, and have been so frequently employed, that it will be impossible to treat this part of my subject without making free use of familiar facts.

Of all instances of apparent adaptation in the structure of the organ, the most striking is the structure of the eye in its relation to the act of vision. For this the primary condition is the existence of a nerve sensible to light. But a nerve simply sensible to light would serve only to distinguish light from darkness; to discriminate between objects an optical apparatus is required, and it is in the construction of this apparatus that the nice adjustment of means to ends is most clearly manifested.

[1] [*Three Essays*, etc., *Theism*, p. 171.]
[2] Janet, *Final Causes*, p. 55.

A great German physiologist, Müller, remarks upon this point: "In order that the light may project upon the retina the image of the objects from which it proceeds, that which comes from certain definite parts of the external bodies, whether immediately or by reflection, must not put in action more than corresponding parts of the retina, a thing which recognizes certain physical conditions. The light which emanates from a luminous body diffuses itself by radiating in all directions when it meets no obstacle to its passage; a luminous point will therefore lighten a whole surface, not a single point of that surface. If the surface which receives the light radiating from a point is the united surface of the retina, the light of that point causes the sensation of light in the whole, and not merely in a part of the nervous membrane." There then would be no vision, in the proper sense of the word, but only the sensation of light. "Consequently, in order that the external light may produce in the eye an image corresponding to the bodies, it is indispensable that there should be arrangements to cause the light given forth from certain points to act on isolated parts of the retina arranged in the same order, and which prevent one point of that membrane from being illuminated at once by several points of the external world." [1]

In order to attain the result here desired, two different systems have been employed. The first of these, which are called composite eyes, is seen in the case of insects. The method here adopted consists in placing before the retina, and perpendicular to it, an innumerable quantity of transparent cones

[1] Janet, p. 58.

which allow only the light which follows the direction of their axis to reach the nervous membrane, while all which strikes obliquely is absorbed by the pigment which lines their walls. Here nature proceeds precisely like the chemist in his laboratory, when, in order to study a phenomenon, he seeks first to isolate it, that surrounding circumstances may not disturb his experiment. This combination of *transparent* cones with *absorbing* walls, allowing the light to come in one direction, and absorbing it in every other, however it may be explained, is evidently the same process. But what makes the contrivance of the eye vastly more marvelous than the precaution of the chemist, is the amazing quantity of combinations which the system requires, amounting to 12,000 or even 20,000 cones in a single eye, to which must exactly correspond in the cornea as many little geometrical divisions without which the result intended would not follow. Can such wonderful contrivances fail to suggest design?

But more striking even than this is the structure of the human eye. With insects the method consists in excluding the rays which would prevent the effect from being produced. With man the same result is obtained with more precision, and greater intensity of effect, by concentrating upon one point the divergent rays which emanate from another. The human eye is, in fact, a camera, and is constructed on the principle of the instrument which photography has rendered so familiar. We have a solid membrane, enclosing the globe of the eye, made transparent at one point, this transparent part corresponding exactly with the opening of the orbit. Behind this transparent opening are placed con-

vergent media to unite the luminous rays. And lastly, in the very axis of the transparent cornea, and of the crystalline lens, is placed the retina which receives the image of the object. Nor is this all; but the degree of curvature of the crystalline lens is always exactly adapted to the medium in which the animal is called to live, whether it be air or water, and the eye possesses a faculty of accommodation, by which it is enabled to see with equal distinctness objects placed at different distances. And still another remarkable property of the eye is its achromatic power, which, if not perfect, is yet sufficient for practical use.

While considering this complicated internal structure of the human eye, the part which the external organs play should not be overlooked. The eye is protected from injury by a lid, which is further provided with lashes. For a long time it was supposed that these organs served simply to prevent injurious substances from entering the eye, but recent research has shown that they have another and far more delicate function; that is, that they have the power of partially arresting what are termed the ultra-violet rays, or the luminous rays which lie beyond the violet in the solar spectrum, and which act in a very injurious manner upon the retina. Precise experiments have also shown that these protecting media have also the power of arresting almost the whole of the obscure radiating heat which always accompanies light in considerable proportion, and which might, if allowed to strike upon the retina, affect its very delicate tissue. But, in consequence of this arrest, only those rays are transmitted which are required for producing vision. Here we have

an arrangement which is no part of the organic structure of the eye itself, but which is externally combined with it, simply that the eye may be protected in the work it has to perform. We have the adjustment of one organ to another and wholly distinct organ.

Now I am well aware that the human eye has been the object of severe criticism, and that some physicists have not hesitated to declare that it is by no means the perfect and admirable organ that has been represented. Some have complained of the uselessness of the crystalline humor, since the blind operated on for cataract, can do without it. Helmholtz has shown, to his own satisfaction, that considered as a mere instrument, the eye has imperfections and defects; while a French writer declares that there is no maker of optical instruments who could not make a better one than Nature has furnished to man. But we are not discussing the question whether the eye is an absolutely perfect instrument, nor are we called on here to pronounce an opinion as to whether a German or a French professor could make a better. The only question before us is whether the eye, as it stands, shows the characteristics of design. Placing before us its delicate and complicated structure, its exact adjustments, the careful manner in which it is protected in the performance of its important functions, shall we say that it was intelligently planned with reference to a definite end, or shall we explain it from the blind operation of mere physical causes?

Another striking class of facts on which the argument of design is based is that illustrated in the instincts of the lower animals. Little as we know

of the real nature of instinctive acts in distinction from those which we term intelligent or rational, this much seems certain, that they are not executed with any foresight on the part of the animal of the result attained, and are not acts of judgment derived from any previous experience. Facts without number in proof of this might be supplied from the most cursory observation. The young bee is hardly able to move its wings when it leaves the hive in search of flowers, and begins to labor not to supply its own immediate wants, but for a common and future good. The spider has not so much as seen the insects which will serve for its food when it hastens to lay a snare for them by weaving its curious web. The spinning machinery which is set up in its body is not more accurately adjusted to the secretion of which its web is formed, than is its instinct directed to the construction of the web, and to the selection of suitable places for the capture of its prey. Each step it takes is adapted to a determinate result. And this determination appears more striking as we descend the scale of nature, and as the parents are more released from personal care of their offspring. All creatures are under a like impulse to provide for the nourishing of their young, but while animals discharge only a purely physical function in giving suck, birds have their nests to build, and after hatching their young, must gather food adapted to the period of growth, while insects go much farther, and in some instances, as with bees, are charged with the selection of nourishment which has the power of producing organic changes in the young, so that certain selected individuals can be made the queens of future hives. Here we have a vast series of ad-

justments, not only between the bodily organs and instincts of the individual, but between the instincts of animals and those forces of surrounding nature which are related to them. The foresight is not in the animals themselves. They simply walk in a path which has been marked for them. We have, in all this, the criterion of finality, the determination of the present by the future. Nor is this evidence any less striking if we allow that instinct in the higher animals is often coupled with intelligence, and that it may be modified by experience, or by hereditary transmission.[1]

A consideration of these instances, which might be multiplied without end, will now enable us to recognize more clearly the truth of the principle that has been already asserted, that the argument of design is simply an explanation or interpretation of facts. The general conclusion of order belongs to the category of mental inferences, but each particular instance of purpose on which this general inference is based, is not a mental inference but a physical fact. Of nothing can we say that we see its ultimate purpose, but the immediate purpose lies directly before our eyes, and is all with which we have to do. The function of an organ is a matter of purely physical investigation, but this function is not merely what it does, but what its construction enables it to do. The idea of function cannot be separated from the idea of purpose. The function of an organ is its purpose, and the adjustment of its various parts as well as of its complex whole to that purpose is as much a fact as any other phenomenon of which science can take note. It is, therefore, a

[1] Flint, *Theism*, p. 383.

manifest misunderstanding of the truth to assert that the idea of purpose belongs, not to science, but to the domain of metaphysics and theology.[1]

There is no doubt a sense, and an important sense, in which all science rests at last on metaphysical conceptions. Yet the idea of purpose and adjustment is by no means so metaphysical as other ideas which are not only freely adopted into physical science, but are even, in some instances, made its fundamental postulates. The relation of a given structure to its function or end is certainly a physical fact far more simple, direct, and unmistakable, than the relation of the same structure to a corresponding part in a wholly different animal on which the whole doctrine of homologies is based. Classification, on which all science is founded, is simply an arrangement of facts in an ideal order, or in conformity to certain laws of thought. But mere physical facts can have no such close relation to an ideal order, as the organs of an animal have to the precise function which they are meant to discharge in the animal economy. The marvelous adjustment, then, which we have presented in the natural world is simply a question of fact. It is a fact to be ascertained and recognized in each particular case, and the question of its existence has nothing to do with the question of any larger or ultimate purpose.

Before leaving this part of our discussion, it is important to observe that these numberless facts which illustrate contrivance or design in nature not only do not conflict with what has been asserted, in a previous lecture, of the order and harmony

[1] Duke of Argyle, *Reign of Law*, p. 86.

everywhere displayed in the physical universe, but, on the other hand, only serve to render it more striking. For the necessity of contrivance is a direct result of the immutability of natural forces. These forces must always be conformed to and obeyed, and therefore, when they cannot directly serve a given purpose, they can only be made to do so by combination and contrivance. Hence we may lay it down as an evident principle that when a universe is governed by constant and invariable laws contrivance will follow by a logical necessity. Instead, therefore, of suggesting any unworthy conception of the universe, or of the intelligence that everywhere manifests itself through the universe, this adaptation of means to ends, or contrivance for the accomplishment of purpose, is inseparably bound up with the conception of the universe as it exists. Even had we no facts to prove it, we might infer contrivance as a consequence of the inflexible demands of law.

And, as we follow out and understand more thoroughly each instance of contrivance, this feature will be more distinctly recognized. Nowhere is it more strikingly displayed than in the way in which nature accomplishes that in which man has always failed—the navigation of the air. This point has received such apt and beautiful illustration from the Duke of Argyle that I cannot do better than borrow the substance of his reasoning.

Among the great mysteries of nature has always been reckoned the flight of birds. It seemed a violation of one of the most familiar and ever-present forces of nature. How, in defiance of the known effects of gravity, could heavy bodies float them-

selves in thin air, or sweep at will, in headlong plunge, with movements more easy, more rapid, more certain, than could be executed by animals upon the solid earth? Well did Solomon say of "the way of an eagle in the air," that "he knew it not." Anything more beautiful and more striking is not presented to us in the realm of organic life. Yet, when we come to study and understand it, we find it simply an illustration of the way in which contrivance has bent to its purposes the most rigid and universal of laws.

In the first place, we have to note that the force which seems so adverse, the force of gravitation, is the very thing which renders the flight of birds possible. Birds do not fly because they are lighter than air, but because they are heavier. Were they lighter they might float like a balloon, but they could not fly. What makes it impossible to direct the course of a balloon, what causes it to drift helplessly in the upper space, is the simple fact that it possesses no active force which enables it to resist the varying currents in which it is immersed. It is part of the atmosphere, and must go with the wind that bloweth where it listeth. But the bird, being always greatly heavier than the air, is endowed with a force which supplies momentum, and therefore is capable of overcoming any lower force, and even heavy gales of wind. Gravitation is, therefore, an essential element in the flight of birds; and hence the heavy birds are always the most vigorous on the wing, and can wrestle victoriously with the rudest blasts. It is because the law of gravity is always acting that the eagle swoops from his mountain nest, and the wild goose wings his rapid flight across a continent in search of his winter home.

But, coupled with this, is another principle which, at first sight, would seem, like gravity, only an impediment to flight. This is the resisting force of the atmosphere, in which the requisite balance to the force of gravity is supplied. Now that the force of air should be made effectual for this purpose, it must be used under peculiar conditions. The force of air is a force acting in all directions, and if it can prevent a body from falling it can also prevent it from advancing. Hence it must be called into action in a direction as much as possible opposed to the force of gravity, and as little as possible in any other. These conditions are met by the great breadth of surface presented perpendicularly by the bird's expanded wing, and by the narrow line presented horizontally. But mere pressure of air is not enough. More must be invoked to accomplish flight, and that is the air's immense elasticity. To enable a creature heavier than the air to support itself against the force of gravity, it must be able to strike downward with such force as to cause a corresponding rebound. These conditions are all met in the enormous vigor of the muscles which move the wings of birds. In many birds the pulsations of the wing are so rapid as utterly to defy any attempt to count them.

Without pausing to dwell on the obvious adaptation of the structure of the wings to the work they have to do, we pass to another arrangement which shows in a manner, if possible more striking still, how a difficulty opposed by natural laws is overcome. It is plain that if a bird is to support itself by the downward stroke of its wings upon the air, it must lift the wings again, and that each upward

stroke is in danger of neutralizing the opposite. It must be made with equal velocity and must hence produce equal resistance. If this difficulty were not overcome flight would still be impossible. But by two contrivances, it is evaded. One is that the upper surface of the wing is made convex, so that the air escapes readily on all sides, and comparatively little resistance is produced, and the other consists in the fact that the feathers of the wing are made to *underlap*, so that in the downward stroke they are closed, while in the upward they are separated, the air rushing freely between them at every point.

But rapid blows thus struck against the air might enable the bird simply to lift itself straight up. The power of forward motion is given by the direction in which all the wing feathers are set, and by the structure given to each individual feather. The wing feathers are all set in a rigid frame, and in a direction opposite to that in which the bird is meant to move, and each feather while rigid at its base is extremely flexible and elastic at the end. In consequence of this disposition of the parts, the air which is struck and compressed in the hollow of the wing, being unable to escape through the wing, owing to the closing upwards of the feathers, and unable to escape forwards on account of the rigidity of the frame and of the quills in that direction, is compelled to pass out behind. In thus escaping backwards it lifts by its force the elastic ends of the feathers, and thus, in obedience to the law of action and reaction, communicates along the entire edge of both wings a corresponding push forwards to the body of the bird. By this elaborate contrivance the

same volume of air that yields pressure enough to sustain the bird against the force of gravity communicates a forward motion. The bird has simply to repeat its perpendicular blows, and as a direct consequence of this peculiar structure of its wings, the same blow supports and propels it. Thus it appears that gravity supplies birds with an internal force which, acting through nicely adjusted instruments upon the external force of air, is the explanation of their wondrous evolutions. Could we ask for a more convincing proof that it is the very immutability of law that renders contrivance a necessity?

But while the argument of design may rest on this broad basis of undisputed fact, there are objections to it, the most formidable of which also appeal to facts, and which require candid consideration at our hands. Many objections that have been urged against contrivance, or finality, have been already disposed of by the careful limitation of the argument on which we have already insisted. One who defends this argument at the present day is by no means called upon to defend all the ill-grounded and preposterous applications that have been made of it. That the study of final causes is not opposed to the study of physical causes, and that in the investigation of final causes we do not assume to gather the ultimate purposes of the Supreme Intelligence, has been already shown. To borrow on this latter point an illustration from Robert Boyle: "A peasant, entering the garden of a famous mathematician and seeing there a curious astronomical instrument, would, no doubt, be guilty of great presumption should he believe himself capable of comprehending all the ends for which it had been constructed; but

if he sees on it a plate and index casting a shadow of the sun, he might infer that one part of its purpose was to mark the hours."

An abuse of final causes which long prevailed consisted in rejecting facts on the ground of their inconsistency with some final cause supposed to be ascertained. Thus, in the last century, the existence of double stars was denied by a celebrated astronomer, on the ground that one luminous body did not need another revolving round it. So the theory that the earth was a mere satellite of the sun had, for a long time, to contend with the notion that man was the final cause of the creation, and was, therefore, entitled to a central position in the universe. Final causes have at times been used to account for phenomena that had no existence. Even Fénelon maintained that the moon was created to give the earth light in the absence of the sun, forgetting that we are often deprived of the light of both. Some applications of the doctrine are almost too absurd for mention. Thus the author of "Paul and Virginia" asserted that dogs were usually of two opposite colors, light and dark, that they might be distinguished from the furniture of a room, and that a melon had been divided into sections by nature to adapt it to family eating. Voltaire did not go beyond this when he affirmed, "Noses are made to bear spectacles; let us wear them."

But, leaving these objections, which spring from misconceptions or misapplications of the argument, I pass to consider one that is very old, and that touches the very centre of the problem. The theory of final causes, it is claimed, inverts the order of the facts by taking the effect for the cause. The

eye sees, not because it was made for sight, but because it is capable of seeing; the bird flies, not because he was made for flight, but because he is so made that he can fly. For the most forcible expression of this doctrine we may turn to the great Roman poet, whose theory coincides so precisely with some of the currents of modern thought: —

"But before all, be on your guard against too common an error: believe not that the shining orb of our eyes has only been created to procure for us the sight of objects; that these legs and these movable thighs have only been reared on the basis of the feet to give greater extent to our paces; that the arms, in fine, have only been formed of solid muscles, and terminated by the right and left hands, to be the ministers of our wants and of our preservation. By such interpretations, the respective order of effects and causes has been reversed. Our members have not been made for our use, but we have made use of them because we have found them made." [1]

But the objection here urged, which has been more accurately stated by Spinoza, is the very problem here at issue. For if there are final causes, the effect is no longer merely an effect, it is at the same time a cause. The question, whether there are not effects which are at the same time causes, is the point on which the whole discussion hinges. Or rather, to speak with entire accuracy, it is not the effect itself which is the cause, but the idea of the effect. The objection would, therefore, hold only against the theory of an unconscious finality. But if, by finality, we mean an intelligent foresight of the end, the

[1] Lucretius, *Nature of Things*, b. iv. 822: (Janet, p. 200.)

objection has no force. For in this sense there is no contradiction in the assertion that an effect may be a cause. But, still further, this objection does not touch the real point at issue. If we assume the existence of the eye, no one denies that sight is the necessary result. But how came the eye itself, with all its complex adjustments, to exist? The harmony between the internal and the external conditions once established, and the effect follows as a thing of course; but the problem how that harmony was first brought about is in no way solved by the assertion that man sees simply because he has eyes given him.

A far more formidable objection to the argument of design is drawn from the vast armory from which the arguments in support of it are furnished, that is from the facts of nature. If the generality of facts support the law, it cannot be denied that the apparent exceptions are also numerous and striking. The theory rests on the adaptation of organ to function, but in many instances this adaptation cannot be made out. Numerous cases might be cited among the lower animals where the same organ performs at the same time wholly different functions. In the hydra, the animal may be turned inside out like a glove, and the exterior surface will then perform the functions of digestion. In the animal kingdom, two distinct organs, in the same individual, may simultaneously perform the same function. Thus the air-bladder found in certain fishes, originally constructed to aid in floating, may be converted into an apparatus for breathing. The tail, a nullity for man, fulfills the office of a fifth hand for monkeys, and serves as a leg to the kangaroo. An organ is not,

therefore, always characterized by its use, and we are compelled to admit that we cannot trace in nature an absolute and necessary correlative between organ and function.[1]

There are, also, organs appealed to against final causes that seem to have no function. These seemingly useless organs are of two kinds, complete or rudimentary. With the advance of science the former class are continually becoming less. It would be presumption to say that an organ has no use because its use has not been discovered. An organ, like the spleen, may be of use, without being essential to existence. On this point Mr. Darwin remarks, with his habitual caution: "We are much too ignorant regarding the whole economy of any one organic being to say what slight modifications would be of importance or not."[2] As he proceeds to show, even characteristics in an animal apparently so superficial as color may be of essential use, and, if this be true, we can hardly affirm positively of any organ that it serves no purpose. Since the law of the utility of organs and of their adaptation finds sufficient verification in such a vast multitude of cases, it seems far more reasonable to suppose that the apparent exceptions spring from our ignorance rather than from any failure of the principle. For a long time there were apparent exceptions in some of the heavenly bodies to Nature's law, yet when analyzed they have only furnished a new verification of it.

But when we pass from complete organs to rudimentary organs the case is different. Here we encounter a real difficulty, which cannot be removed

[1] See Janet, p. 223.

[2] [*Origin of Species*, c. vi. (Am. ed., p. 190.)]

by appealing to human ignorance. Thus the woman bears on her bosom the organs destined to support her child. In man they exist, but in a rudimentary state, and serve no useful purpose. Horses can move their skin, and thus drive away the flies that trouble them. Man has the muscle with which this movement is accomplished, but he has no power to contract it voluntarily. The marsupials, such as the kangaroos, are furnished with a pouch, in which their young are carried during the period of lactation. Man bears the traces of the same arrangement in the processes of the pubis, and the pyramidal muscles, but they are manifestly without use. He has in the calf of his leg a long slender muscle, incapable of energetic action, which in the tiger, the panther, and the leopard, explains the prodigious leaps with which they pounce upon their prey. The human intestine has an appendix, represented by a large fold in the herbivorous animals, which in man serves no purpose of digestion, yet may become a source of danger and even of death. He has an organ not only without use but positively detrimental to him.[1]

The existence of such useless rudimentary organs can, however, be accounted for in two ways: on the theory of the unity of type, or on the theory of the atrophy of organs by disuse. In the first, we can easily see that the type remaining the same, nature, whether by amplifying it, or inverting it, or changing its proportions, may adapt it to various circumstances, and that the organs thus rendered useless survive only as a souvenir of the original plan. Or, adopting the second, if the organs have ceased to be

[1] See Janet, p. 228.

of service, and thus have been reduced to a minimum, it does not follow that they cannot have been of use at some former time. But neither of these two explanations contradicts in the least the theory of finality. It is by no means implied in this theory that plan should be subordinated to use; and nothing conforms more exactly to it than the gradual disappearance of useless organs. "Those who maintain final causes are not bound to maintain that they must always prevail over efficient causes. Nature is not bound to conform itself, in all things, to the utility of living beings, but the organization must be considered as a mean taken between the interest of the organized being and the general laws that render his structure possible." [1]

"At first sight," says the Duke of Argyle, "it may appear as if there were facts not to be reconciled with the supremacy of purpose, — at first sight, but at first sight only. For as we look at them and wonder at them, and set ourselves to discover how many of a like nature can be found, our eye catches sight of an order which has not been at first perceived. Exceptions to our narrow rule, such as we might have laid down and followed for ourselves, they are now seen to be in strict subordination to a larger rule which it would never have entered into our imagination to conceive. These useless members, these rudimentary or aborted limbs which puzzle us so much, are parts of a universal plan. On this plan the bony skeletons of all living animals have been put together. The forces which have been combined for the moulding of organic forms have been so combined as to mould them after certain types or patterns. And when comparative anatomy has revealed this fact as affecting all the animals of the existing world, another branch of the same

[1] Janet, p. 234.

science comes in to confirm the generalization, and extend it over the innumerable creatures which have existed and have passed away. This one plan of organic life has never been departed from since time began.

"When we have grasped this great fact, all the lesser facts which are subordinate to it assume a new significance. In the first place, a plan of this kind is in itself a purpose. An order so vast as this, including within itself such variety of detail, and maintained through such periods of time, implies combination and adjustment founded upon, and carrying into effect, one vast conception. It is only as an order of thought that the doctrine of animal homologies is intelligible at all. It is a mental order, and can only be mentally perceived. For what do we mean when we say that this bone in one kind of animal corresponds to such another bone in another kind of animal? Corresponds in what sense? Not in the method of using it, for very often limbs, which are homologically the same, are put to the most diverse and opposite uses. To what standard, then, are we referring when we say that such and such two limbs are homologically the same? It is to the standard of an ideal order, a plan, a type, a pattern mentally conceived."[1]

Two distinct ideas are, in fact, interwoven in organic life, — the ideas of homology in structure and of analogy in use. One represents unity of design, the other variety of function, and the two constantly modify each other.

I pass to another objection urged against the argument of design, the objection on which altogether most stress is laid at the present time, an objection which, in the opinion of not a few, has removed from nature all evidence of a final cause. I refer to the doctrine which derives all the wonderful adaptations

[1] *Reign of Law*, p. 206.

of the physical universe, simply from antecedent conditions of existence. The objection already considered, that in the argument of design the effect is put for the cause, implies that any given organism is simply an effect resulting from certain given causes, and that those causes are all contained in the series of successive steps by which the organism has come into existence. This objection in itself is not new, but may be traced back as far as Aristotle; but it has recently derived great additional force from the new illustration it has received at the hands of some eminent observers of the facts of nature. According to this theory, design is no longer needed to connect organs with the function they discharge; but another principle, drawn from nature itself, affords an adequate explanation. This is the principle of Mr. Darwin which has become familiar in the phrase, "survival of the fittest."

It is an error to speak of Mr. Darwin as the originator of the theory of natural selection. It was advocated in a general form by many before his time. But the great English naturalist was the first who attempted to trace with precision the steps by which the process was carried on, and from his unrivaled powers of observation the theory was set forth with a wealth of illustration that gave it altogether a new character. As presented by him, the theory did not pretend to account for the origin of sensation, or of animal or vegetable life. Assuming the existence of some of the lowest forms of organic life, in which are found no complex adaptations, and no traces of contrivance, and assuming, as was not unreasonable, that many small variations from those simple types would be thrown out in all

directions, which might be transmitted by inheritance, some of which would be advantageous to the creature in its struggle for existence and others disadvantageous, the former would tend to survive, while, on the other hand, the latter would tend to perish. And thus, by a slow but constant modification of the type, adapting itself to different conditions of existence, it might develop into all the varieties that now present themselves.[1]

In thus explaining the evolution of higher from lower forms of life, Mr. Darwin appeals to physical agencies that are visibly in action. Whether species are changing or not at the present cannot, indeed, be determined by observation; but the entire period during which man has watched the operations of nature is but an infinitesimal portion of the vast epoch that has elapsed since this process of natural selection began. Yet man's experience, short as it is, furnishes abundant illustration of the method by which these modifications have taken place. The mode in which the existing breed of race-horses has been produced is a case in point. Simply by taking a score of horses and selecting from these the fleetest to pair together, and then again selecting the fleetest of their offspring, he will soon produce an animal whose speed far exceeds that of the native race from which he sprung. The different kinds of dogs, so unlike in all their external characteristics, — the mastiff, the greyhound, the terrier, — have all been developed from allied varieties of the wolf and jackal. Our domestic pigeons, where the divergences, due in most cases to human fancy, are still more remarkable, are all descended from a single species of wild pigeon.

[1] Mill, *Three Essays*, etc., *Theism*, p. 172.

To comprehend how nature conducts her long process of natural selection we must remember that the reproductive capacity of plants and of the lower animals almost transcends belief. Thus, a minute alpine plant (proto-coccus) is said to multiply so fast in a single night as to color many acres of snow blood-red. A single codfish is estimated to lay six million eggs within a year. This enormous increase can only be kept within just bounds by the destruction of the greater number. Of the six million embryo codfish but a small number reach maturity. This is what is meant by the struggle for existence, the universal law of the natural world. Those only survive and propagate their kind which are best adapted to the conditions in which they live. By a stern method nature saves from the general slaughter only those who are best able to support themselves. But, during this process, the external conditions are also changing. Modifications of the earth's surface, in the moisture of the atmosphere, in the intensity of solar heat, are ever going on, and thus, in the constant struggle, no constant race remains, but new varieties are constantly produced, once more under new conditions, to renew and perpetuate the endless struggle. Only time is needed to explain all phenomena of variation.

But without dwelling at greater length upon a theory which has been rendered familiar to us all by recent discussion, let us ask the only question with which we are here concerned, how does it affect the argument of design? For the sake of the argument let us concede that the theory of natural selection is well established. To what conclusion does it lead? It has been hastily inferred that the

doctrine of finality has received its death-blow from this theory. Is this a logical result? Taking Mr. Darwin's own account, natural selection is evidently not an agent, but simply a result. It is nothing more than the success of one animal in its struggle with another. Thus, by fleeing for generations from its enemies, the swiftness of the antelope has been developed. By seeking its food from trees, the long neck of the giraffe has gradually been drawn out. But the primal productive agency in both these cases was not natural selection. Natural selection was simply a negative condition. It created nothing; it simply destroyed a large part of that already in existence. When we are told that natural selection "effects improvement," that it "develops structure," this language can be only metaphor. For natural selection can do nothing. It can produce no new variety, but only determines what new variety, under favorable circumstances, shall survive.

Now what strikes us most forcibly in the natural world is not simply the fact of development, but the fact that this development has been progressive, and that it proceeds in accordance with an orderly method, a method which results in the constant formation of more highly organized species. How shall this be accounted for? There are but two explanations possible: chance variation running through long periods of time, or variation according to prearranged order. Only let us have an infinity of time, it is urged, and the right variation will, sooner or later, take place, and be perpetuated. But these variations join on, in every instance, to what has been produced before, forming a harmonious fabric, and they occur not as fluctuating and vanishing products,

but as fixed and permanent modifications. Let us go back to the illustration of the eye. Accepting this explanation, we are forced to the conclusion that this organ, not only with its inimitable contrivance for adjusting the focus to different distances, for admitting different amounts of light, for the correction of spherical and chromatic aberration, but with its nerve unlike any other in the system, its external mechanism of lid and lashes, is the result of chance. Such a hypothesis violates moral possibility; it is, in fact, nothing but the discarded doctrine of Lucretius and the Epicureans.

We have only left the other hypothesis, that natural selection works according to fixed laws. But laws in nature are simply uniform facts. And as soon as we look at them clearly, we see everywhere coincidence, correspondence, correlation. If they result finally in elaborate and intricate system, they must contain system and imply system. Hence the so-called law of variability must, itself, be taken as the expression of a purpose. For the variation of an organism must be, in some measure, at least, determined by the original constitution of the organism. Nobody expects to gather figs of thistles. And this variation proceeds just as much in a definite direction. In the nature of things there is no more reason for improvement than for deterioration. Why is improvement and advance the rule? Simply because the internal constitution of the organism is in every case adjusted to external circumstances. Natural selection cannot account for this adjustment. So the law of over-production, which results in the survival of the fittest, is obviously simply a means of attaining a desired result. It may

seem to us a mysterious law, involving so much as it seems to do of privation, pain, and death; but it is not the less the method by which nature works, and by which ultimate order, harmony, and perfection are secured among living creatures.

The law of natural selection, therefore, not only does not conflict with the argument of design, but affords new illustration of it. It is a contrivance for securing a desired result. The proofs which have been brought forward so abundantly to establish the theory of natural selection, are in reality new arguments in favor of finality in nature. The works of Mr. Darwin himself are rich in such expressions as "beautiful contrivances" and "marvelous adjustments." The human mind seems instinctively to adopt this mode of interpreting the facts of nature.

"The issue," says Professor Gray, "between the skeptic and the theist is only the old one, long ago argued out, namely, whether organic nature is a result of design or of chance. Variation and natural selection open no third alternative; they concern only the question how the results, whether fortuitous or designed, may have been brought about. Organic nature abounds with unmistakable and irresistible indications of design, and, being a connected and consistent system, this evidence carries the implication of design throughout the whole. On the other hand, chance carries no probabilities with it, can never be developed into a consistent system, but when applied to the explanation of orderly or beneficial results, heaps up improbabilities at every step beyond all computation." [1]

[1] *Darwiniana*, p. 153.

LECTURE VI.

EVOLUTION AND FINAL CAUSE.

In my argument thus far, I have sought to show that the universe, as it exists, implies a cause; that from the order and harmony which it everywhere displays we have a right to infer the presence of intelligence, and that from the manifold adjustments which are not less manifest, we have a further right to clothe this intelligence with the characteristics of purpose and finality. All this by no means amounts to a complete theistic proof, nor would the argument, in this incomplete form, satisfy the legitimate demands of the religious nature. We need to go much further and embrace much more within the scope of our conclusions before the great problem of natural theology is solved. But before proceeding to the next stage of the discussion, something is needed to complete what has been already said. In the course of my remarks, I have repeatedly referred to a theory which is so fundamental and characteristic a feature of modern thought that its bearing upon natural theology requires to be submitted to a somewhat more detailed examination. I refer to the doctrine of evolution.

In noticing the objections urged against intelligence and against design, I have already considered briefly some specific forms which this theory has assumed, but its prominence at the present time

makes it incumbent on us, before going further, to consider it as a whole. For the doctrine of evolution may be said to sum up and comprehend the speculative movement of our time. It is the word which science pronounces as a solution of the riddle of existence, the characteristic form in which the thought of the present age has shaped itself. As formulated in its widest compass, by its leading exponent, the unhesitating claim is made that it has involved the exercise of intellectual gifts not less supreme than those required to demonstrate the law of gravitation, while for the grandeur of the conception it involves, as well as for the vastness of its consequences, and the extent of the revolution it is destined to effect in human thought, the work achieved by Spencer must be regarded, we are told, as fully on a par with that which has made Newton immortal. And, with whatever abatement of the praise due any single individual, the fact must be conceded that the doctrine of evolution has, in our day, gained a rapid and widespread ascendency.

This doctrine must be accepted then as the characteristic note of contemporary thought, and any discussion of natural theology would be incomplete which did not recognize its various, direct, and important bearings. The doctrine, considered in itself, I do not undertake to criticize. It would be wholly foreign to the purposes of this discussion to pass in review the scientific grounds by which it claims to be established. It is sufficient that it has now a wide acceptance, and seems winning a wider acceptance every day. It is enough, in illustration of what the doctrine is, to refer to the familiar fact, established by the researches of physiologists two

centuries ago, that every animal without exception, at the outset of its existence, consists, simply of a minute, structureless, and homogeneous germ. In this primitive stage, from which we have all alike emerged, the man, the monkey, the dog, the parrot, cannot be distinguished from one another. So far as the closest scrutiny of science has been able to push its examination, they all begin their varied careers at precisely the same point, — and not only this, but every part of each of these germs is precisely like every other part, in texture, in composition, in temperature, and in specific gravity. Yet out of this simple and homogeneous beginning springs all the wonderful variety that the world of animated nature shows. From this one source comes man with his wide discourse of reason, the ape with his grimaces, the hound with his keen scent, the bird with his thick warbled note and his brilliant plumage. And not only is this true of all that now exists, but it is not less true of all that has formerly existed. The idea is fruitful, and capable of quick and wide extension. If the marvelously complicated and diverse structures which we see around us can be evolved, as we see them every day, from such simple beginnings, why may not all life, all organic beings, all nature, whether in its grandest or its humblest forms, be traced back, in the same way, through numberless ages, to a similar origin? Derived, in the first instance, from physiology, the theory has at last been made to include not only the physical, but the moral and the intellectual sphere. Zoölogy, geology, astronomy, history, politics, morals, have all been brought within its sway. Evolution is affirmed as the principle

that underlies all existence, the conception that gives unity and cohesion to all manifestations of life and force.

Freed, as far as possible, from mere technical and abstract phraseology, the principle of evolution may be reduced to this statement: that nothing in nature is produced in a complete or finished form, but on the contrary everything commences in a rudimentary state, and by a slow succession, through modifications slight in degree but infinite in number, it at last appears in its final determinate form, then again, by a reversing of the process, to be carried back again to its original condition. These changes, produced by forces inherent in matter, are what make up the endless rhythm of evolution and dissolution, and to this law the appeal is made to explain as well the beginning as the end of the material universe. Thus the great globes that revolve in space are compacted out of nebulous ether, and thus, having performed their appointed rounds, their solid mass is resolved again into thin air. For it is claimed that the universe, both as a whole and in all its parts, is subject to this law, which explains not only the organization of matter, but the origin and development of life, and the long succession of organic species. Nature is, in fact, an endless change from the indefinite to the definite, from the simple to the complex, from the unrelated like to the related unlike.

To give the form of this theory with a little more precision, it may be stated that the co-existence of antagonistic forces, throughout the knowable universe, necessitates a universal rhythm of motion; and that in proportion to the number of forces any-

where concerned in producing a given set of motions, the resulting rhythms are complex. Hence, as a result of each rhythm, must occur a redistribution of matter and motion. That redistribution involves, on the one hand, an integration of matter, with a concomitant dissipation of motion, and on the other, a disintegration of matter, with a concomitant absorption of motion. The former process, which results in the acquirement of individual existence, is termed evolution, and the latter, which results in a loss of individual existence, is termed dissolution. Without pushing further this abstruse analysis of the factors concerned in evolution, it will be enough to give the modern statement of the principle, which is that "the integration of matter and concomitant dissipation of motion, which primarily constitutes evolution, is attended with a continuous change from indefinite, incoherent homogeneity to definite coherent heterogeneity of structure and function, through successive differentiations and integrations."

Aside from this extremely abstract form, into which it has been cast by Mr. Spencer, the doctrine of evolution contains nothing new. The idea did not originate with him, nor in our own time, but may be certainly traced back as far as Leibnitz. It was this great thinker who uttered the maxim, "the present is big with the future," and in this maxim the modern idea of evolution is virtually contained. As Leibnitz advanced the theory it was opposed to a mechanical conception of nature prevailing in his day, but in his mind it did not stand in any antagonism to theistic belief. It did not, in the least, contradict the notion of a first cause, nor was it in the

slightest degree incompatible with the theory of final cause. What Leibnitz maintained strenuously, in all his philosophy, was that the highest idea which we can form of a creator is to suppose him creating a world capable of developing itself by its own laws, without requiring a constant interference on his part to sustain and govern it. Nothing was further from his purpose than to weaken our conception of a divine agency in nature. He simply held that the Almighty had implanted, at the beginning, in each creature the law by which its whole subsequent development was shaped.

In this sense, the idea of evolution was simply opposed to the doctrine of special creation, and of a constant divine interference to shape the course of the world. First in our own time has this doctrine, based on a wider induction and set forth with more scientific precision, been clothed with an anti-theistic meaning. In virtue of this secret and incessant and long continued process, it is claimed, by which everything that exists is continually changing its form, and accommodating itself to the medium in which it lives, the functions and adaptations everywhere displayed in nature are sufficiently accounted for. The explanation which the race has so long cherished is dismissed as a needless hypothesis, and the endless rhythm of evolution and dissolution is put forward as a satisfying explanation, at once, of the mystery and harmony of things. This theory, it is claimed, meets better than any other the claims of reason. The legitimate demand of reason is for unity, for there can be but one ultimate ground for what exists, and by this theory alone the whole universe is explained,

as a homogeneous and coherent system, naturally evolved out of a single primary substance. It is a simple explanation, as it asks for nothing outside itself.

That there is any universal law of evolution or dissolution, and that one is united with the other by a mystic rhythmic harmony, such as the followers of Mr. Spencer imagine, is a doctrine which, it need hardly be said, is destitute as yet of any scientific proof; but evolution in the limited sense that nature presents to us an infinite variety of movements up and down, may be accepted as an established principle. No one will deny it who has ever sown seed with the expectation that it would spring up, or has hatched chickens out of eggs. Evolution in this sense is merely a process of nature, a process which implies constituent elements and conditions, and which proceeds in accordance with regular method. It is true that the process may be traced back to a point where the characteristic constituent elements cannot be discriminated, where to all appearance the germ of the man, the monkey, and the parrot, are just alike; but no one doubts that even here, though the most minute scrutiny of science cannot detect it, a difference exists, and that all the later modifications of the being produced are simply the result of this original distinction.

Evolution, with whatever accumulation of elaborate phraseology we may dress it up, remains still an evolution out of something. Far back as we may go, we cannot go back so far that we do not encounter existence, in however simple and homogeneous a form. Evolution is a process, but a process which implies material to be evolved. What this original

material was is mere matter of conjecture, but its existence is a fact which must be assumed, and for which evolution, as a mere process, manifestly cannot account. So far as the great problem of the beginning of things is concerned, we are left by this theory precisely where we were before. We may assume as proved the nebular hypothesis, and believe that the sun and planets once existed in space as a fiery cloud. But the solar system evidently could not have been evolved out of its nebulous state if the nebula had not possessed, at the outset, a certain mass, form, and constitution; in short, a system presenting to the reason a problem demanding solution no less than the existence of the planets. We have pushed the problem back, but it remains the same problem still.

Unless we have recourse to the fanciful theory of rhythmic evolution and dissolution, — the universe, through eternal ages, with no directing intelligence enacting the strange drama of slowly forming itself from chaos and developing into the varied and perfected forms of life with which we are familiar, only once more to be dissolved into its original elements, all things without form and void, as they were in the beginning, a hypothesis not only destitute of all scientific proof, but contradicted by all the analogies of nature that we see around us, — we are driven to assume that this visible universe had a beginning in time. Scientific reasoning points to this conclusion; at this point evolution began, and for all that existed up to this point, evolution does not account. But evidently evolution, taken in this sense, does not conflict with the idea of an intelligent cause. Descartes, a devout believer, in his famous discourse on

method, clearly recognizes the principle that even if, at the beginning, there existed nothing but chaos, still, if the laws of nature were established, it is more easy to conceive of all things coming in time to exist as they now do, than to conceive of them as created by one act.[1]

Mr. Spencer himself clearly recognizes this when he tells us: "The genesis of an atom is no easier to conceive than the genesis of a planet." Indeed, far from rendering the universe less mysterious than before, this theory makes a greater mystery of it. Creation by fabrication seems less wonderful than creation by evolution; a man can bring a machine together; he cannot make a machine that develops itself. That our harmonious universe should formerly have existed potentially in the state of diffused matter, without form, and that it should gradually have attained its present organization, is much more marvelous than its formation according to the artificial method supposed by the vulgar would be. Those who consider it legitimate to argue from phenomena to noumena, have good right to maintain that the nebular hypothesis implies a primary cause "as superior to the mechanical god of Paley as that is to the fetish of the savage." So that, whatever ground we may have for believing in a first cause, or in an intelligent first cause, that ground is not in the slightest degree impaired by the doctrine of evolution. For evolution is only a method, and leads us inevitably back to our great original.

It may be said that in this reasoning we assume that matter has been created, whereas physical science has demonstrated beyond doubt that matter is

[1] *Discours de la Méthode:* Janet, *Final Causes*, p. 254.

absolutely incapable of increase or diminution, of creation or of annihilation. I reply that physical science has done, and can do, no such thing. Physical science, as understood and taught by its ablest professors, does not undertake to draw any such conclusions. Its inferences are bounded by experience. It does not venture to define what is possible or impossible beyond the line traced by its own experiment. All that it affirms is, that matter cannot be destroyed by any of the methods known to man, and that it is not destroyed by any of the processes revealed in nature. This is simply affirming that, in the physical system which is known to us, matter is indestructible. Science has a perfect right to say that matter has no beginning and no end, for it has none in any of the processes, and the relations, that science traces; any inference beyond this is purely unscientific reasoning. We may conclude, then, that any theory of evolution which includes as a premise the doctrine that matter is eternal, is a theory which science will not recognize.

And, if evolution cannot be explained from the eternity of matter, as little can it be rested on mere force. We are told that force is inherent in matter; that matter has an inherent activity; that matter and force are inseparable, and that both have existed from eternity. These are bold assertions, and in striking contrast with the cautious words of Newton, who wrote: "that gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a *vacuum*, without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity, that

I believe no man, who has in philosophical matters a competent faculty of thinking, can ever fall into it."[1] I know that physical science has made great advance since Newton's time, and that the scientific conception of matter to-day is very different from what it was two centuries ago; but the doctrine that matter is endowed with potencies which make it continually self-active, and go far to identify it with spirit, is a doctrine that cannot be claimed as a demonstrated result of science.

Yet, leaving out of the discussion as irrelevant the question whether matter is eternal or created, and granting that evolution does not do away with a first cause, it may still be objected that this cause is removed so far back as to strip the idea of any practical effect. A first cause carried back through incalculable epochs of time, and only felt and recognized to-day through a process of necessary transformations, that imagination can no more conceive than it can conceive the limitless abysses of space, is virtually taken out of the sphere of human thought and action. But this objection wholly misconceives the process of evolution as expressed in the specific forms which the theory has assumed. The law of natural selection, for example, implies not only an original germ as the starting-point, but a long series of favorable conditions. The presence of these external conditions is an essential part of the theory, and these external conditions are not fixed once for all, at the beginning, but must continually vary with the transformation of the individual. For evolution can continue only upon the condition of this harmony between the individual and its surroundings at every successive stage of growth.

[1] [Letter to Bentley: Newton, *Opera*, iv. p. 438.]

Evolution is not, then, the blind working of mechanical forces; for, on that hypothesis, we are logically driven back to the ancient doctrine, that the universe had its origin in the mere fortuitous concurrence of atoms. Its order, its harmony, its constant progress from a lower to a higher state, cannot be accounted for on such a theory. We have the favorable conditions as a part of the process. These favorable conditions are ever varying; they result from intricate combinations of invariable forces. We have, in all this, *more* than the idea of intelligent cause; we have an ever-acting cause; hence evolution, instead of pushing far back the transcendental ground of being, reveals that ground as a present source of phenomena that surround us at every stage of our progress. Evolution could not go on without the constant action of this ever-present cause. Evolution, then, is simply a method by which the Supreme Cause acts. In the words of the Duke of Argyle, "Creation by law, evolution by law, development by law, or, as including all these kindred ideas, the reign of law, is nothing but the reign of creative force directed by creative knowledge, worked under the control of creative power, and in fulfillment of creative purpose."[1]

In discussing this subject we must keep carefully in mind the distinction between evolution as a theory of the universe, a law claiming to be universal and all-pervading as gravitation, and to account for all forms of organic and inorganic being; and evolution in the more limited and modest sense in which it is asserted by most men of science, and in which it professes to be based directly upon facts of nat-

[1] *Reign of Law*, p. 294.

ure. In this sense, it is to be accepted precisely like other facts; not to be rashly set in opposition to them, but to be interpreted in accordance with them. One class of natural phenomena illustrates every other class. The sound conclusions of science must be drawn from these phenomena, taken as a whole, not from any one exclusive class considered by itself. The recognition of evolution, as a method of nature, has unquestionably worked already a great modification in our conception of the physical universe, and no doubt is destined to work still greater in the future; for a mechanical it has substituted a dynamical conception; it has correlated and explained phenomena that seemed disconnected and apart; still as a law it has, as yet, received no generally accepted statement.

As a method of accounting for the origination of living things, it simply stands in opposition to the doctrine of separate acts of creation by the immediate fiat of a supreme being. When applied to animals, it signifies that the various kinds are genetically connected, and that the different species have arisen, not from an independent source, but by a gradual process of transmutation. But among men of science who, in a modified sense, adopt the theory, there are very wide diversities of opinion as to the extent to which it may be applied in explanation of the various groups of natural objects. Many hold to special acts of creative agency at particular stages of transition in the long process, and some would regard the introduction of man himself upon the stage as one of these acts. Mr. Darwin holds that animal life, including the human species, is traceable to a few primitive germs. Others think that evolu-

tion spans what seems at first the wide chasm between animal and vegetable life, and even between vegetable and inorganic existence. But that, in the present stage of science, much of this is mere conjecture is illustrated from Mr. Huxley's confident prediction about the diffusion of protoplasm at the bottom of the ocean, which recent marine exploration has placed in the realm of mare's-nests.

It is obvious, if we consider the matter fairly, that evolution, in any sense in which the doctrine can lay claim to a scientific footing, relates to the operation simply of second, or what are termed efficient causes. It undertakes to account for the actual condition of the world as we see it and know it. It does not, as a scientific theory, go a step beyond this; it does not treat the problem of the ultimate origin of the world; it does not necessarily raise the question whether the world, as we see it, is the result of intelligence; it neither affirms nor denies a divine agency in the operations of nature. It is purely a hypothesis of natural science, and as such has nothing to do with supernatural problems. The man of science who applies himself, in the light of its guidance, to trace out the links of causal connection in the phenomena of nature is following a perfectly legitimate path. The doctrine of natural selection is one to be proved or to be disproved simply by appealing to facts. If Mr. Darwin's conjecture as to the origin of man should be fully established it would no more conflict with theism than the fact that each living individual has been born and not made.

Conceding, then, the great importance in modern science of the theory of evolution, conceding that

it is destined indirectly to modify not only scientific but theological conceptions, I deny that the doctrine, in any form in which science accepts it, stands in the least antagonism with the fundamental ideas on which all theistic belief rests. If there is anything in the theory of evolution inconsistent with that belief it must be, not in the theory itself, but in some hypothesis made in connection with it. It can only be made the basis of materialism by being brought into alliance with another class of assumptions, with which it has no necessary connection whatever. The eternity of matter and spontaneous generation are no part of the doctrine of evolution. Evolution, I repeat, is a fact to be explained in the light of other facts. One universal characteristic of evolution is that it proceeds according to law, and is carried on by means of intricate and harmonious adjustments. This order, and these adjustments, are just as much facts as evolution itself, and in seeking to explain the one, we are bound never to lose sight of the other. Evolution does not destroy, but confirms, the proof of intelligent cause.

If there is nothing in evolution which contradicts the notion of a first cause, we have next to ask whether evolution renders irrational and needless the conception of final cause. It is against the theory of finality in nature that evolution has been most decidedly arrayed, and some of those who have adopted this latest explanation of the phenomena of nature have hastened to proclaim that by it the mechanical God of Paley has been forever set aside. Thus, Mr. Huxley says:—

"In Paley's famous illustration, the adaptation of all

the parts of the watch to the function or purpose of showing the time, is held to be evidence that the watch was specially contrived to that end, on the ground that the only cause we know of competent to produce such an effect as a watch which shall keep time, is a contriving intelligence, adapting the means directly to that end. Suppose, however, that any one had been able to show that the watch had not been made directly by any person, but that it was the result of the modification of another watch which kept time but poorly, and that this, again, had proceeded from a structure which could hardly be called a watch at all, seeing that it had no figures on the dial, and the works were rudimentary, and that going back and back in time we come, at last, to a revolving barrel as the earliest traceable rudiment of the whole fabric; and imagine that it had been possible to show that all these changes had resulted first, from a tendency in the structure to vary indefinitely, and secondly, from something in the surrounding world which helped all variations in the direction of an accurate time-keeper, and checked all those in other directions, — then it is obvious that the force of Paley's argument would be gone."[1]

On the contrary Dr. Paley, had he been alive, would probably have replied to Professor Huxley that by this ingenious and complicated hypothesis his argument was not weakened in the least. For we have now to account for the existence of a revolving barrel, capable of such extraordinary transformation, and of that mysterious something in its surroundings which helped all its variations in one direction, and checked them in every other. We are forced to admit some primordial arrangement in accordance with which all these transformations were directed, and the greater the interval between

[1] [*Lay Sermons*, pp. 330, 331 (Flint, *Theism*, p. 197).]

the original barrel and the final completed watch — the greater the number of connecting steps between the first and the last of these two terms — the more convincing the evidence of the purpose which worked itself out through the entire process.

Let us now ask, is there anything in the doctrine of evolution which renders *irrational* the theory of a final cause? There is certainly nothing in human experience which would lead to such a conclusion. In all the operations of man the existence of a final cause harmonizes with the law of evolution. Every plan that we form for the future, every combination that we make for achieving some purpose, involves a final cause, yet the execution is gradual, and involves many intermediate steps. Thus, I form a purpose to write a course of lectures, but the execution of this purpose proceeds by steps, and by a law of evolution. In all human industry the whole chain of successive steps is prepared and directed to attain the final end. True, in human industry, we constantly interpose, so that we do not have a perfect illustration of evolution; but it is easy to conceive of an operation directed by so much greater power and wisdom that only a single initial purpose should suffice for endless combinations. Evolution, in its idea, then, not only does not exclude final cause, but seems naturally to imply it. For evolution is simply development, and development implies tendency towards an end. If we admit a tendency we thereby admit finality.

The theory of evolution, instead of rendering the notion of final cause absurd, leads to a conception of finality that is grander and more impressive. When, for example, we consider the marvelous structure of

the eye, and realize that it has been gradually produced by organizing forces which have fashioned it through the agency of complex organs working harmoniously toward this one result, we have a much more complicated problem presented than in the case of simple mechanism. It explains nothing to say that this result has been brought about by virtue of a law inherent in the species, for here, in place of one organism, we have countless similar organisms, and the problem is only endlessly complicated. If we carry the process a step backwards, and bring in the more general law of transformation, we have only a vaster organism, moved and guided from the beginning in the same direction. If we go still further back to the inherent laws of matter, we have still the question, would not the force which by a single act produced this whole at the beginning, be superior to that needed to fashion any one of the parts? There is manifestly nothing in the mere idea of evolution which cannot be brought into harmony with the existence of finality.[1]

Next let us ask, is there anything in the doctrine of evolution that renders the hypothesis of final cause *unnecessary?* It may be conceded that the more we allow to nature the grander will be the exhibition of intelligence in her operations, provided the presence of intelligence be admitted; but why, it may be objected, need we make this admission? If all the phenomena of nature are thus bound together in this endless chain of evolution, why are they not sufficiently explained, and why do we require any additional hypothesis? In short, is not

[1] See Janet, p. 258.

the whole notion of a final cause a purely subjective hypothesis, which the constant extension of objective physical laws is rendering gratuitous? Does not final cause flee from us as we recognize physical causation?

But when we affirm means and ends in nature, we have only in mind a cause perfectly proportioned to its effect. Where the cause is not thus proportioned to the effect, there is nothing whatever that leads us to infer finality. In the case of a phenomenon where the cause is wholly concealed from us, we have simply the emotion of wonder roused, but are not led on to the recognition of wisdom. Hence it is plain that our conviction of final cause is precisely proportioned to our recognition of efficient cause. If the physical cause, in other words, was not seen to be sufficient, it would not be recognized as means, and consequently would carry with it no idea of end. Thus it follows that enlarged knowledge of physical causes cannot render needless the hypothesis of final cause, since one is simply the completion of the other. No doubt we are led to infer final causes because we regard physical causes as insufficient to account for the whole phenomenon; but why are we led to this? Simply because of the agreement of divergent and heterogeneous causes in a phenomenon which can only result from such agreement. The further we ascend from cause to cause, the more difficult does it become to account for the multiplicity of these agreements, so that the more we simplify causes, in a merely physical point of view, the more difficult is it, from a physical cause, to account for the phenomenon resulting from these agreements. The physical cause is simply the possibility

of a given effect; we have yet to ascertain what determines these possibilities to a given result, and what circumscribes within a certain limit their endless variations. Far back as we can trace the process of evolution, matter remains simple matter, and force simple force. We have not explained how, from primitive chaos, a regular order has emerged.

We have looked at the question only in its general aspects. If we now glance at the special forms which the theory has assumed, we shall be just as much impressed with the fact that the idea of finality is by no means set aside. The first to assert the now familiar doctrine of transmutation was Lamarck, who made use of three principles to explain the organic adaptations and progressive development of animals. These three principles were, medium, habit, and need. The influence exerted by physical medium, or, in other words, by the combination of external circumstances surrounding any animal, is too evident to be denied by any one; but it does not appear that the organization is determined by the medium, for who would venture to assert that it is the light that has made the eye? The fundamental law in the development of animals is the progressive complication of organs. But to account for this, even in Lamarck's view, we must suppose something more than medium; we must recognize what he terms "a power of life." According to this, medium is only a modifying cause; it simply produces deviations; it is only an obstacle to the regular and harmonious development of organic forms.

We have left this need and habit; the former produces organs, while the latter develops and strength-

ens them. In the hypothesis of medium the modifying power is purely external; we have only such transformation as is effected when rocks are hollowed out into curious forms by the action of swift-running water; but when we allege need and habit we are evidently dealing with internal causes. It is no longer the mere physical surroundings, but an internal power coöperating with the external forces. There is a capacity of accommodation to external circumstance; and how shall we account for this? Is this accommodation the result of mere mechanical causes, and therefore of chance? To affirm this is simply to go back to the hypothesis of Epicurus. And granting that habit can develop organs, does it follow that need can create them? The blacksmith's arm is made stronger by striking; but did striking create the arm? But if, on the other hand, we reject as insufficient the explanation that this accommodation is the result of chance, if we allow that the modifications of an organ are the result of some more or less conscious tendency which serves as a directing principle, then we are brought to recognize finality as the very foundation of nature.

The insufficiency of this explanation of Lamarck is shown by the fact that it has been given up. Mr. Darwin tells us that he has no great confidence in such agents as the French rationalist suggests, and he gives us in place of them his famous theory of Natural Selection. Granting that this law is well established, let us ask how it acts. According to this hypothesis the adaptation results from a coincidence between the accidental production of an advantage derived from heredity, and an accidental change of medium. Hence arise different varieties,

well armed for the struggle of life. Those, on the other hand, which have adhered to the original type, having acquired no new advantage fitted to preserve them in the new conditions which have arisen, perish. A popular, but wholly ill-founded objection to Mr. Darwin's theory may here be mentioned. He not only never asserted that man was descended from an ape, but according to his theory such an origin for man would be impossible. For, had man descended from an ape, he would have conquered and destroyed the ape in the struggle of life. What Mr. Darwin claims is, that man and the ape are both divergent deviations from some original type which has long passed away.

Mr. Darwin's theory appeals for support to the results obtained in the artificial breeding of animals. But, in making the transition from artificial to natural selection, we have to account for the fact that nature, working blindly, by mere coincidence of circumstances, attains precisely the same end that man attains by a premeditated plan. In order that natural selection might obtain the same results that man obtains, nature would have to be capable of choice. But how can we admit that an animal which has undergone a mere chance modification, should seek out another individual, affected by precisely the same modification, for the sake of perpetuating itself? And granting that, in one instance, this took place, can we account for the fact that it is repeated for successive generations? According to Mr. Darwin, nature practices an unconscious selection, and those species most favored necessarily prevail by right of the strongest. Evidently, however, if the cause of change is simply natural selection,

there is no reason why it should not take place while the surrounding circumstances remain unchanged, and species ought to vary before our eyes. If human industry creates new varieties with such rapidity, why should not nature produce similar changes?

This line of argument is not directed against the general truth of the doctrine of natural selection, but is only designed to show that too much is claimed for it. The principle of natural selection, even when combined with the additional force derived from the survival of the fittest, cannot have the importance which Mr. Darwin ascribes to it. Conceding the utmost that can be legitimately claimed, it still fails to explain the origin of organized forms. Here some *internal* principle of transformation must be admitted, and thus we are brought directly face to face, again, with the idea of finality. Mere natural selection, when the surrounding circumstances remain the same, can only in accidental cases become a principle of modification and change. True, it is claimed, that it is where the external conditions, for some reason, come to be different, that the law of natural selection will be found to work most powerfully. But here we have to encounter the grave difficulty, that animal structures are bound together by organic correlations, and that, consequently, if a chief organ from external causes undergoes an important modification, all the other essential organs must be modified in the same direction.

Mr. Darwin meets this objection by admitting what he terms a correlation of growth, that is, that there are, in animals, connected and sympathetic variations which occur at the same time, and in the same manner. But if these correlations are, in every

instance, precisely those required to meet the change in the external conditions of the animal, the question at once arises, why should organs, that can only act in harmony, be modified at the same time and in the same way? The theory of mere fortuitous modification is thus seen to present insuperable difficulties when applied to the formation of *organs*. Applied to the explanation of *instinct*, the theory will serve no better. In short, the more closely we study any of the various theories of transmutation, the greater will the difficulty become of explaining the origin of organic forms by mere external and mechanical causes. And it should be observed that the ablest expounders of the doctrine of evolution habitually fall into the use of language which implies finality. They speak of an intrinsic and innate property in nature, "of a power which harmonizes each member with the whole, by adapting it to the function it must fulfill in the general organism."[1] And what is this but final cause?

The theory of evolution, as is well known, has been most precisely formulated, and has been pushed to its farthest extreme by Mr. Herbert Spencer. By him it has been elevated to the rank of a universal principle which accounts for everything. All the infinite multiplicity of transformations which have been required to convert the nebulous mass of which the universe once consisted into its present orderly arrangement, and the whole series of living organisms from the lowest vegetable form up to the brain of Shakespeare or La Place, can be explained from the operation of this ever-acting and everywhere present principle. Yet Mr. Spencer is emphatic in

[1] See Janet, p. 295.

his rejection of finality. Even Lamarck and Darwin seem, from their language, at times, to admit the possibility of a plastic principle which gives form to matter. But Mr. Spencer systematically excludes this. With him everything can be derived from the laws of force and motion. To quote his own words: —

"In whatever way it is formulated, or by whatever language it is obscured, this ascription of organic evolution to some aptitude naturally possessed by organisms, or miraculously imposed upon them, is unphilosophical. It is one of those explanations which explain nothing, — a shaping of ignorance into the semblance of knowledge. The cause assigned is not a true cause, — not a cause assimilable to known causes; not a cause that can be anywhere shown to produce analogous effects. It is a cause unrepresentable in thought; one of those illegitimate, symbolical conceptions which cannot by any mental process be elaborated into a real conception. In brief, this assumption of a persistent formative power, inherent in organisms, and making them unfold into higher forms, is an assumption no more tenable than the assumption of special creations, of which, indeed, it is but a modification, differing only by the fusion of separate unknown processes into a continuous unknown process."[1]

If we analyze the system of Mr. Spencer, we find that the two fundamental principles by which he seeks to account for life and organization are, internal coördination, and external correspondence with the medium. Life, he says, is a coördination of actions, imperfect coördination is disease, and arrest of coördination is death. Low organisms display but little coördination, while, on the other hand, as

[1] Quoted by Janet, p. 299, from Spencer, *Biology*, P. iii. ch. viii.

we rise in the scale of life, we find the extent and the complexity of the coördinations constantly increasing.

But this is not enough; we must add a second principle, which is supplied in what is termed the correspondence of the medium, or the continued adjustment of internal to external relations. We have a striking illustration of this in the embryo where, from beginning to end, there is a gradual and continued adjustment, all the phases of the organism corresponding strictly to the phases of the medium. Thus the embryos of viviparous animals are fed in the womb by direct communication with the mother; but at a given moment this communication ceases, and a complete separation between the two beings is effected. Does death ensue in consequence? By no means. The new-born creature is adjusted to a new medium. But, is it not evident that such new adjustment is only rendered possible from the fact that it has been anticipated and prepared for? and how can such preparation be explained from the blind working of mere mechanical forces? So that, granting the proposition that coördination and correspondence are the two constituent principles of life, what do we find after all to be involved in these two principles or aptitudes but the essential and characteristic marks of that fundamental law which we term finality?

Mr. Spencer seeks to establish two propositions as representing in the most general form the tendencies of all the changes in the universe. These are, first, that nature tends to proceed from the homogeneous to the heterogeneous; and, secondly, that it tends to proceed from the indefinite to the definite.

Without discussing the grounds on which these principles are made to rest, we need only ask, in this connection, what do they amount to? The sole question at issue is, whether blind mechanical forces are adequate to explain what we see everywhere around us. The mere abstract statement of the law by which these changes proceed does not, in the least, solve this problem. State the question as we please, we are, at last, shut up to the alternative that organic forces are either the result of fortuitous combinations, or are the product of intelligence. The theory of evolution means, therefore, nothing more than the doctrine that organic beings have risen by degrees from less to more perfect forms, a doctrine that contains nothing whatever opposed to the theory of final causes, or else it must be reduced to a new statement of the old doctrine of chance, a doctrine which the intelligence of mankind rejects as a childish explanation of the origin of the universe.

That the theory of evolution is radically opposed to the doctrine of final cause, and that as it is extended it tends more and more to push final causes out of sight, has been loudly asserted by some of the disciples of Mr. Spencer. It is claimed that the whole conception of final causes rests on the assumption that the Deity entertains intentions and purposes closely resembling the intentions and purposes of men, and that hence, although it involves a more refined conception than the mediæval notion of an arbitrary providence, it still retains a strong element of anthropomorphism. "The career of the theory, it is said, has consequently been that of a perishable hypothesis, born of primeval habits of thought, rather than that of a permanent doctrine

obtained by the employment of scientific methods." "Hence, with the steady advance of knowledge the search for final causes has been discarded in the simpler sciences, until it is kept up only in the complex and difficult branches of biology and sociology."[1] From these remaining strongholds it has now almost been driven by recent discoveries, and the prospect now is that with every advance of science this anthropomorphic conception will be robbed of some part of its jurisdiction.

It was Mr. Darwin, it is claimed, who first, by his theory of natural selection, furnished the champions of science with the resistless weapon by which to vanquish, in their chief stronghold, the champions of theology. For, in natural selection, there has been assigned an adequate cause for the marvelous phenomena of adaptation, which had formerly been regarded as clear proofs of beneficent contrivance. "And we have only to take into account the other agencies in organic evolution, besides the one illustrated by Mr. Darwin, to remember that life is essentially a process of equilibration, in order to be convinced that the doctrine of evolution has, once for all, deprived natural theology of the materials upon which until lately it has subsisted." The apparent indications of creative forethought are, in fact, so many illustrations of the scientific theorem that life, whether physical or psychical, is the continuous adjustment of inner relations to outer relations. In other words, it is not that the environment has been adapted to the organism by an exercise of creative intelligence, but the organism is of necessity fitted to the environment only because the fittest survive.

[1] Fiske, *Cosmic Philosophy*, vol. ii., p. 385.

The so-called proofs of creative foresight are, therefore, the mind reflecting itself.

If I have not wholly failed of my aim in the preceding discussion, I have already sufficiently shown the utter groundlessness of these loud assertions. I have shown that evolution is perfectly consistent with the idea of final cause; that it does not render the hypothesis of final cause superfluous; and the extension of our knowledge of physical causation, instead of putting final causes out of sight, only adds to the evidence in their favor. Evolution, how far soever we may extend it, can neither account for the origin of the universe as a whole, nor for the order and adjustment of its parts. An element enters into the problem for which the mind demands another and a more satisfactory solution than mere physical causation can furnish. To affirm that life is *the continuous adjustment* of inner relations to outer relations, is to affirm nothing to the point, since the adjustment is the very fact for which we are seeking to account. And in accounting for this, as I have before said, carry our investigation into physical causes as far back as we may, we are at last shut up to the two alternatives with which we began, that the universe had its origin in mind or in chance.

And not only is it an altogether hasty and unwarranted assertion that the theory of natural selection has driven the doctrine of final causes off the field, but when we call to mind the fact that, so far as has yet been observed, natural selection never has its cause in mere external influences, and never occurs at random, we have every reason to believe that the law of natural selection, when it comes to

be more perfectly understood, will become one of the strongest supports of the argument of design. The vast array of facts which Mr. Darwin has accumulated with such untiring industry, and such unrivaled penetration, all point in this direction; and it is by no means impossible that from his well furnished armory will be drawn the most effective weapons in defense of the doctrine to which he has been so unwarrantably opposed. There is an evident chasm in his theory which has never yet been filled; his hypothesis requires another hypothesis to make it work. For not only is natural selection perfectly in harmony with design, but it absolutely requires the recognition of design to render it a complete and rational hypothesis.

In the preceding discussion, however, it has not been my purpose to press evolution into the service of natural theology, but simply to establish the negative proposition that it does not conflict with any of the grounds which have been advanced for believing in a first cause and in final causes. Whatever positive religious value the theory of evolution may prove to have remains to be seen. It is still a hypothesis, and if undeniably winning its way to the acceptance of scientific men, must still be regarded as incomplete. For the present, it is enough to show that there is nothing in it that is opposed to Theism. To put in few words the substance of what I have endeavored to show, evolution is simply a scientific interpretation of the facts of nature. It is to be proved or disproved by an appeal to facts, and, in this respect, rests on precisely the same basis as the argument of design. As a scientific interpretation of nature it deals only with physical

or second causes, and instead of being reproached for not going beyond this limit, it would sacrifice its claim to be accepted as a scientific theory if it undertook to deal with anything beyond. Confined to its legitimate field, it does not touch one of the problems with which natural theology deals.

As a theory simply to account for natural phenomena, evolution may be likened to gravitation. Before Newton's law of gravitation was understood it was met with theological objections. To some devout men it seemed to substitute the action of a physical force for the direct action of Deity. It removed God from the world by the hypothesis of constant and omnipresent law. But no one would now for a moment claim that a universe governed by laws was a universe without God: on the contrary, the presence and uniform operation of law is one of the strongest proofs of the divine existence to which natural theology makes her appeal. In the same way, to some, evolution seemed, at first sight, inextricably bound up with atheism. To explain the complex from the simpler forms of being wore, at first sight, the aspect of a materialistic hypothesis. But a little consideration must convince any candid mind that while evolution pushes the first cause a little further back, it does not lessen, in the least, the intellectual necessity which forces the conception of a first cause upon the mind. And, in furnishing us with a hypothesis of the method of creation, it does not in the least account for the method as an actual fact.

Some justification, it should in fairness be added, for this misapprehension of the real meaning of evolution on the part of those who would jealously main-

tain the fundamental truths of theism, may be found in the fact that by a certain class of writers the conclusions of Mr. Darwin have been loudly asserted in the interest of atheism and materialism. To these extreme advocates of evolution the theistic conception has not only seemed modified by it, but has been stripped of all rational ground of support, and the operations of nature, whether in the physical or intellectual spheres, are sufficiently explained in the terms of matter and motion. In this view, God is a figment of the imagination, and matter in motion the only real existence. With this distortion of the doctrine of evolution I am not here dealing. Those who draw such conclusions from it are no longer arguing as men of science. To hold that Mr. Darwin's theory, that a certain aggregate of phenomena now existing has had for its antecedent a certain other and different aggregate of phenomena, affects in any way the proof of the existence of a Supreme Being, is an absurd misconception that deserves notice here only to show that folly is by no means confined to theologians.

"Darwinism," to quote the words of a recent writer who has stated this question with much fairness, "may convince us that the existence of highly complicated organisms is the result of an infinitely diversified aggregate of circumstances so minute as severally to seem trivial or accidental; yet the consistent theist will always occupy an impregnable position in maintaining that the entire series, in each and every one of its incidents, is an immediate manifestation of the creative action of God.

"The business of science is simply to ascertain in what manner phenomena coexist with each other, or follow each other; and the only kind of explanation with which

it can properly deal is that which refers one set of phenomena to another set. In pursuing this, its legitimate business, science does not trench on the province of theology in any way, and there is no conceivable occasion for any conflict between the two. In short, no matter how far the scientific interpretation of nature may be carried, it can reveal to us only the fact that the workings of the ultimate existence of which nature is the phenomenal expression, are different from what they were supposed to be by uninstructed thinkers of former times."[1]

[1] Fiske, *Darwinism*, pp. 7, 54.

LECTURE VII.

IMMANENT FINALITY.

FROM the order everywhere displayed in nature we have been forced to recognize Intelligence, and this conviction has been further strengthened by the manifest adjustment of means to ends, from which we infer design. We have also seen that the theory of evolution, instead of detracting from the force of this argument, really supplies it with a more complex and elaborate basis. But having established this, we now come in contact with a different question, a question which we can only answer by turning our investigation from the outer to the inner world. The problem is this. Admitting that we have, in the order of nature, the evidence of intelligence, and that we have, in its manifold arrangements and adaptations, the proof of design, still what is there that compels us to believe that this intelligence is anything distinct from nature herself? What authorizes us to argue from the fact of finality to the cause of finality? Because nature has ends, are we, therefore, justified in concluding that there is an intelligent cause distinct from nature which has consciously coördinated its several parts with reference to a final purpose?

This brings us directly face to face with the most subtle objection with which Theism has to deal. The doctrine of evolution, perfectly consistent with

Theism when considered as a mere hypothesis of the method of creation, totally changes its aspect when we regard nature as a great living force, realizing itself by its own inherent energy, and in accordance with its own laws. Now evolution is no longer a mere method which a Supreme Intelligence has chosen, for the sake of carrying out its own purposes, but becomes a process through which nature passes, by an inner necessity, and without the direction of any superintending mind. Those who hold this view admit intelligence, but not an intelligence distinct from, only an intelligence identical with, nature. They admit the fact of adjustment of means to ends, but it is not an adjustment planned and arranged by a power in whose hands the forces of nature were mere plastic agencies, but an adjustment resulting from the presence in nature of a universal energy, working without any conscious volition towards harmonious and rational results.

This mode of looking at nature has possessed, in all ages, a singular charm. We trace its presence in the most widely separated regions, and with races whose moral and intellectual characteristics seem to stand in the sharpest contrast. It has had a wide foothold among the dreamy nations of the East; it swayed with almost unsuspected presence the positive religious faith of the Middle Ages; it has curiously interwoven itself with the philosophy, the poetry, the science of modern times. It has been understood in the widest variety of senses, and has been made to include the loftiest as well as most groveling forms of speculative opinion. The grossest schools of modern materialism have sheltered themselves beneath its name, and by some of the

warmest defenders of Christian truth it has been identified with the teachings of the most spiritual of the apostles. It is a remarkable fact, that the gospel, which sternly opposed every form of ancient materialism, seems to have given a new impulse to this method of interpreting the external universe. The early church abounded with schools whose speculation was colored by this subtle belief.

Any precise definition of a doctrine held in so many forms it would be difficult to give. In general, this mode of explaining the existence of the universe may be stated as the theory "which regards all finite things as merely aspects, modifications, or parts of one eternal and self-existent being; which views all material objects, and all particular minds, as necessarily derived from a single infinite substance. This one absolute substance, this one all-comprehensive being, it calls God. Thus God, according to it, is all that is, and nothing is which is not essentially included in, or which has not been necessarily evolved out of God."[1]

This theory is the opposite of theism. While theism views the Supreme Being as existing alone and apart from the world, this, on the contrary, denies that God and nature either do or can exist apart. It regards God without nature, as a cause without effect, or as a substance without qualities, and nature without God, as an effect without a cause, or as qualities without a substance. God and nature are conceived as eternally and necessarily coexistent, the contrasted phases of an indissoluble unity, the inner and the outer sides of the same eternal whole.[2]

[1] Prof. R. Flint, *Anti-Theistic Theories*, p. 336.
[2] *Anti-Theistic Theories*, p. 339.

This doctrine has been rendered familiar to us by our enlarged knowledge of the religions and philosophy of the East. While it is an error to regard India as the fountain-head of this wide-spread tendency, we find it nowhere so deeply rooted. The rich literature of this mysterious land furnishes us with the most striking illustrations of it. In the Indian religion Brahma was conceived as the universal life in which the world is absorbed, and from which it issues. All subsequent Hindoo speculation evolved this idea. Thus, in the later Vedanta philosophy, the central doctrine is that there is only one real being, of which all material things and finite minds are simple emanations. Whoever knows Brahma becomes Brahma. But it is not only on the banks of the Ganges that we find these theories prevailing. All the pre-Socratic schools of Greek philosophy, with one exception, that of Democritus, were more or less inclined to the same opinion. Parmenides, with his doctrine of absolute being, can hardly be distinguished from the Hindoo thinkers. And even Heraclitus, asserting a different doctrine, that the universe is merely a process of incessant change, arrived at the same result.

In modern times the head and front of this ancient theory has been Benedict Spinoza, who in his "Ethics" summed up, from a great variety of sources, and elaborated with unrivaled precision, the doctrine which from his hands may be said to have received its final form. Assuming that philosophy was a purely deductive science, its truths needing only to be analyzed and demonstrated like the propositions of geometry, Spinoza identified the order of knowledge with the order of existence. Beginning with

a definition of God as the first and self-existent being, he next proceeded to prove the identity of the two ideas of God and of substance; and from this his whole system flowed. God is conceived as thinking substance when apprehended by the mind under the attribute of thought, and as extended substance when conceived under the attribute of extension; but thinking substance and extended substance are not two substances distinct from one another; but the one substance apprehended by the mind of man, now under this attribute and now under that. The universe, including not alone sun and stars and earth, but all human intelligence, all human experience, all human history, are but modes of the absolute, man's soul a divine thought, his body a divine extension.

In the long line of seekers after truth, who have set themselves resolutely and patiently to solve the great enigmas of life, there is no one to whom we turn with more sincere respect and with deeper interest, than to the Jew Spinoza. It is a strange circumstance, that the race, distinguished above all others for its stern and uncompromising theism, should have produced the founder of modern pantheism. The scanty record preserved of his humble career presents his private character in the most admirable and winning light. The only account we have of him we owe to a clergyman who distorted his theories, but who could detect no flaw in his blameless character. Driven in wrath from the religious communion in which he was born and educated, disinherited, left when still a mere boy in penury to seek his livelihood, he sought, in his own language, to substitute certainty for conjecture, and by

placing himself in contact with the bare facts of life, to find where the real good of man actually lay. He refused pensions, legacies, and calls to honorable positions, which might in the least lessen his personal independence. He chose to earn a scanty subsistence by grinding glasses for optical instruments, rather than have anything interfere with his honest quest for truth.

No great thinker has been more variously estimated. Denounced on the one hand as an atheist, and as a teacher of doctrines subversive of all morality, on the other hand he has been eulogized as a Christian, and represented as a "god-intoxicated" man. The most severe and methodical of reasoners, clothing his thoughts in words as precise as the language of geometry, has been identified with transcendental mystics. But with whatever difference of opinion respecting his views, there is no question as to the deep mark he has cut in modern thought. Not so much his precise method and his specific conclusions, as his general habit of thinking, has given him his enduring influence. Few but professed students now open his "Ethics"; but the underlying spirit which pervades his ethics has worked itself widely into the modern mind. It appeared in the pantheistic philosophy of Hegel and Schelling, and in the pantheistic Christianity of Herder and Schleiermacher. It possessed an irresistible fascination for the penetrating intellect of Goethe. In an anecdote which has been preserved, relating to his very last days, we have a striking illustration of the keen interest with which the great poet watched the development of these new theories of nature.

To this mode of viewing the external universe

may be traced some of the most remarkable scientific conceptions of modern times. From Schelling's doctrine of nature, a doctrine set forth in lofty and eloquent language, and illustrated from a wide range of scientific knowledge, came the now familiar theories of vegetable morphology, the homologies of the skeleton, and even the later hypothesis of the origin of species. This new philosophy was a protest against the lower materialism of the last century, and received an impulse from the powerful reaction against the ideas of the eighteenth century which the nineteenth has shown in so many ways. Nature was now looked upon, no longer as apart from God, but as the agent and manifestation of the absolute. It was viewed as one organic whole, independent and self-sustained, a system of forces and agencies acting upon and limiting each other, yet all derived from one original source and all working by one universal law. The individual was simply a momentary bubble floating along on this everlasting flood. The rapid progress of the physical sciences helped the tendency; for there was a fascination in thus giving variety to physical facts by speculative ideas, and binding the mysterious phenomena of nature into a living organism.

But, after all, the subtle influence of this theory was made effective less as a clearly conceived scientific system, than as a mode of looking at things. What made it popular was its appeal to that poetic instinct which exists to a greater or less extent in all of us. We have it nowhere more adequately embodied than in the familiar lines of Wordsworth:

> "I have felt
> . . . . . A sense sublime

Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And the blue sky, and in the mind of man;
A motion and a spirit that impels
All thinking things, all objects of all thought,
And rolls through all things. Therefore am I still
A lover of the meadows and the woods
And mountains, and of all that we behold
From this green earth; of all the mighty world
Of ear and eye, both what they half create
And what perceive; well pleased to recognize
In nature, and the language of the sense,
The anchor of my purest thoughts, . . . and soul
Of all my moral being." [1]

In this passage we have the key-note of a large part of our modern speculative natural science.

Starting with this conception, all that we have claimed as evidence of mind, and even of finality, in nature is readily conceded, but it is argued that this mind is *in* nature, and not above it or distinct from it. That there is everywhere in the external universe proof of intelligence is not for a moment doubted, but the question is asked, Why should this intelligence be conceived of as apart from nature; why should we be constrained to go out of nature to account for its origin? The ordinary argument of design, it is claimed, proceeds upon a superficial analogy. There are, it is true, certain products of nature which at first glance seem to resemble the works of man, but this resemblance is only in appearance. The works of man are products of an intelligence distinct and apart; the pieces of a machine, for example, are strangers to each other, and the unity and motion that they possess are impressed upon them from without;

[1] [*Lines on Tintern Abbey.*]

but in the products of nature the force is internal, and the end realizes itself. Organized structures, such as we are and see around us, are not mere machines, but are always endowed with an inner energy, and possess a formative force.

The distinction here insisted on between the works of man and the products of nature is too obvious to be denied. A moment's glance is enough to show that the operations of nature are distinguished by three characteristic signs, which are never found in any human works : —

1. In nature the organized being has a formative energy, in virtue of which the original germ successively assimilates all the particles which it borrows from the external world, and which constitute its growth.

2. It is endowed with a reparative power, by virtue of which it repairs any injury that it may suffer, and so effectually that it is a maxim of the healing art that nature is the best physician.

3. It has a reproductive power, by which the individual is perpetuated from one generation to another.

These characteristics draw so broad a line between the artificial works of man and the spontaneous products of nature that it is evident that any analogical reasoning from one to another can have no force whatever.

From this distinction has been drawn the theory which we are now considering, the theory of what is termed immanent finality. The first hint of it was given in an acute distinction of Kant between what he termed external and internal finality. In the former, things are never considered as means, but

in the latter all the parts are reciprocally means and ends. As afterwards developed and stated by Hegel, the doctrine of immanent finality included three fundamental points: —

1. There are final causes in nature, and not only so, but the final cause is the sole veritable cause, for it alone has in itself the reason of its own determination. The domain of efficient causes is simply that of blind necessity.

2. It is not, however, necessary to conceive the final cause in the form which it assumes in human consciousness, that is as an anticipated representation of the end. There are two ways of attaining an end: one voluntary and the result of conscious choice, like that in man, the other rational but unconscious, the activity of nature.

3. The finality of nature is immanent and internal, where the cause, the means, and the end are simply three terms of one process, the cause attaining its end without going out of itself, by self-development.

The physical theology of the eighteeenth century, for the most part, conceived of the supreme cause as wholly distinct from the universe, framing the world with conscious design, much in the same way as an architect fashions a house. Making all allowance for the imperfection of human language when attempting to represent the divine operations under analogies derived from man's works, it must still be acknowledged that the reproach was, to a great extent, well founded. Paley's famous illustration of the watch carries with it a mechanical conception of the divine working, though it was far from his thought to suggest any such idea. The

argument of design was founded on external finality, that is, on utility, and this explains why it was so much abused, and at length brought to such general contempt. We certainly owe this debt to Spinoza and to Schelling, and it is a debt that we need not fear to acknowledge, that they have given us a far more worthy conception of the divine working, and supplied us with a far more satisfactory theory of the relation of the spiritual and the material universe. Incomplete and unsatisfactory as was their theory, it has served to build something far better than the doctrine it destroyed.

The theory of immanent finality, like the theory of evolution, contains nothing that of necessity contradicts the theistic conception of a supreme cause. In either case the fact of antagonism has been far too hastily assumed. A little reflexion will show that such antagonism has really no existence. Immanence and transcendence do not exclude each other. Those who accept one view are not logically required to reject the other. A transcendent cause and an immanent cause are simply different sides of the same fact. For the conception of a transcendent cause, if that cause is at the same time recognized as a cause ever present and operative, carries with it, of necessity, the notion of immanence. Absolute transcendence would be such entire separation of the supreme cause from the actual creation that there would no longer be any bond of connection between them, and the most pronounced theist has never for a moment dreamed that the relation of God to the world was of this kind. To assert this would be, in effect, not to assert theism, but to assert atheism ; it would be the most complete exclu-

sion of the infinite from the sphere and knowledge of the finite.

On the other hand, an absolute immanence would be such utter blending and confounding of God and the world that cause and effect, ground and phenomenon, absolute and relative, would be terms no longer possessing any meaning. But those who assert most emphatically the divine immanence have never gone to the extreme of asserting this. Even accepting the ancient hypothesis of a soul of the world, the distinction between God and the world would still remain. Hence we are fully justified in the assertion that the doctrine of a supreme cause, above nature and distinct from nature, does not in any way exclude the notion of a cause at the same time immanent in nature; and that the idea of nature as endowed with an internal activity, and working to an internal finality, contains nothing that excludes a supra-mundane cause. In other words, the supreme cause may be, at the same time, within and outside of nature. Experience goes strongly to confirm this view, for wherever a theistic faith has been most earnest it has instinctively allied itself with the practical persuasion that the Supreme Being was not remote from the world, but was working in all things and through all things, and bringing all things to pass.

But, though it may be conceded that there is no necessary contradiction between the true conceptions of a mind above nature, and a mind working in and through nature, yet the question still remains 'Having the evident proof of one why need we infer the other?' Order and finality are, as we have seen, facts in nature, but when we undertake to reason

from these facts to their cause we pass to a wholly different sphere. What right have we to conclude that the finality of nature is conscious and voluntary, like the purposes formed by man? Those who deny that the finality of nature is the result of any conscious choice appeal to the instinct of the lower animals. Instinct is the activity, which without conscious purpose, achieves a definite end. The difference between the rational man and the irrational brute is that the latter does not know his ends as ends. The beaver builds his house with no plan before him; the bee, without calculation, constructs his cells in accordance with the most refined geometrical laws. So far as we can ascertain, there is no conscious intelligent purpose in the marvelous structures which rival the most elaborate creations of human skill.

Thus instinct presents us with the type of unconscious finality, and by showing its possibility at the same time furnishes us, it is claimed, with the true explanation of external nature. Conscious purpose, intelligent choice, such as we see displayed in man, is after all but one form of finality, and by no means its highest and absolute form. Man, limited in his range, limited in his powers, works, with a preconceived purpose, towards a definite end; but nature works on a larger scale and according to a different rule. Yet, according to those who take this view, there is no contradiction whatever in admitting that this unconscious, plastic force of nature creates works, which, to the human understanding, appear as means conformed to an end. Unconscious adjustment of means to ends implies, therefore, no contradiction; and the denial of a personal, intelligent creator consciously

accomplishing his ends, no more involves a denial of the order and adjustments of nature, than a denial of the harmony of the human organs follows from the doctrine that plants and animals are formed by an organic, plastic force. The order springs from a tendency in nature.

This theory of unconscious finality, first suggested by Hegel, has been carried to its extreme by later writers. Thus Schopenhauer writes: "The admiration and astonishment which are wont to seize us in view of the infinite finality manifested in the construction of the organized being, rests at bottom on the natural but false supposition that this agreement of the parts with each other and with the whole of the organism, as well as with its external ends, is realized by the same principle that enables us to conceive and judge it, and consequently by means of representation; that, in a word, as it exists *for* the understanding so it exists *by* the understanding. No doubt, we can realize nothing regular nor conformed to an end, except under the condition of the conception of that end; but we are not warranted to transfer these conditions to nature, which is itself a *prius* of all intellect, and whose action is absolutely distinct from ours. It brings to pass what appears to us so wonderfully teleological, without reflection and without concept of the end, for it is without representation, a phenomenon of secondary origin."[1] Nature, he adds, has given us a brilliant comment on its productive activity in the artistic instinct of the lower animals.

Building in the main on the same foundations as Schopenhauer, and arriving often at results that

[1] *Die Welt als Wille*, t. ii. c. xxvi. See Janet, p. 378.

seem identical, Hartmann has somewhat modified the view. Without adopting the conception of intelligent finality, he yet opens a way of returning to it. Schopenhauer had completely separated the will from that which was presented to consciousness. The presentation, in his view, was wholly secondary. The unconscious purposes of the will could be completely realized without it. But, on the contrary, Hartmann strongly asserts the necessary connection between these two. A mere unconscious tendency he terms but the empty form of will, and as empty form is always pure abstraction, actual volition can exist only in relation to the actual cognition by the mind of something present or future. In other words, no one can really will without willing to accomplish some definite end. But, while thus affirming that the will cannot exist as will without intelligence, he maintains that this presentation is at first unconscious. The aim of his philosophy is to show that there is omnipresent in nature one will and intelligence, acting in unconscious union with one another, by whose agency all phenomena may be accounted for.

As a necessary preliminary step towards proving this presence, throughout all nature, of one will and intellect, distinct from what appears in the mind of man, Hartmann is obliged to analyze the idea of purpose or final cause, and to show that physiological and psychological processes, indeed all the phenomena of nature, cannot be accounted for in a satisfactory manner, save on the hypothesis that they were first arranged, and are ever after directed and kept in activity by one governing purpose; in other words, that we find everywhere in the universe the evi-

dences of intelligent design. He argues that the conception of final cause by no means excludes that of efficient cause, but rather presupposes it, and that one could not be carried out except through the other. But an intelligent will is surely one efficient cause among others. Thus, while in the structure of the eye we have the evidence that many physical agencies have coöperated in building up that complex and nicely adjusted organ, yet these agencies would not so have harmoniously coöperated had they not been combined and directed by an intelligent will. Yet the eye is only one out of innumerable instances that go to multiply the probability that the order of the universe is due to a designing intellect and will.

Still, according to Hartmann, in all these manifold and wonderful adaptations of the organic world we see only the working of unconscious intellect and will. In proof of this, he calls attention to the independent or self-regulating functions of the ganglia, or lower nervous centres, connected with the spinal cord and the sympathetic system. These, without any communication with the brain, and therefore unconsciously, maintain complicated movements nicely adjusted to each other. In all of these, too, a certain purpose is evident, and in the more complex movements this purpose is strikingly apparent. The conscious mind knows nothing of these movements; they are regulated by a power distinct from our proper selves. Even what are regarded as the *voluntary* movements of the limbs and muscles cannot be effected without the coöperation of the unconscious. I simply will the movements of my hand in executing a piece of music upon the piano, without

being in the least conscious of the complicated apparatus of nerves, muscles, and tendons by which the movements are executed, without even knowing what part of the brain must be touched to bring all this apparatus into play. Consciousness does not, in fact, belong to the essence, but only to the phenomenal manifestation of the individual.

The direct answer which at once suggests itself to all this is that, granting the fact of this unconscious activity in nature, why look to this alone for the explanation of nature's processes? To solve the great problem of life we need to utilize our very highest resources; we ought to look for the solution we are in search of, not in the lowest, but in the highest form of life and being. Why turn to the instinct of brutes, about which we know so little, when we have directly before us the intelligence of man, of which we know, through our consciousness, so much? Granting that instinct, as Schopenhauer asserts, is a commentary on creative activity, yet is it a commentary any easier to read or to comprehend than the intelligence of man? There are three distinct modes of action of which nature furnishes us the illustration. These three are, mechanism, instinct, and intelligence. Of these three we dismiss the first as yielding no help in the problem we have to solve. Of the remaining two instinct is confessedly the most obscure, and the least understood; why should we turn to this alone for an explanation of the method by which the purposes of nature are accomplished?

But the hypothesis of instinctive finality not only compels us to appeal to a more obscure class of facts, it really presents much greater difficulties

than the hypothesis of intelligence. For, on this theory, the question still remains, how can a cause attain an end by appropriate means without having either known that end, or selected those means? Out of an infinite number of directions in which the cause might have acted, what limited it to that one direction which alone would produce the desired result? If, in the very nature of the cause, every direction but one was excluded, then the idea of finality is set aside. We have only left the necessary determination of Spinoza. In short, while the doctrine of immanent finality, that is, the theory of an intelligence working in nature, presents no difficulties, and does not stand in any antagonism with the conception of a supreme cause distinct from nature, when we proceed to affirm that this immanent finality is unconscious, we are at once involved in difficulties and contradictions. For, if the finality displayed in the universe only exists, as Schopenhauer asserts, *for* intelligence, but not *by* intelligence, it is pure illusion, and in reality does not exist at all.

To answer the question before us, what reason we have for inferring that the source of the intelligence displayed in the external universe must be sought, not *in* nature, but in a sphere above nature, and transcending nature, we must turn from the phenomena of matter to the phenomena of mind. Only let it be observed that our object here is not to repeat the old argument of Locke, that the existence of finite intelligence is a fact that can only be adequately explained by going back to an infinite intelligence as its cause, since mind must have had its origin in mind, but simply to make use

of the facts of consciousness, and of the processes of human intelligence, to explain the facts of external nature, and the processes of organic life. In other words, we are making use of the phenomena of mind for the purpose of completing and perfecting the argument from order and design. The force of this argument depends upon its connection with the facts of human consciousness. It fails to satisfy unless combined with this additional proof derived from an independent source. The validity and impressiveness both depend on the support which it derives from the knowledge of ourselves as conscious and voluntary agents.

We have a perfect right to make this appeal, for the facts of human consciousness are as strictly and truly facts as any of the phenomena of the external world. It is true that Comte and the early positivists denied the right of psychology to be regarded as an independent science. According to his view, there could be no science worthy of the name founded upon the observation and comparison of states of consciousness, and psychology could only claim attention as a department of biology. That is, the study of mind was simply the study of nervous phenomena. The legitimate conclusion from this postulate was a blank materialism. The intellectual limitations of this writer are nowhere more conspicuously shown than in a doctrine which would reduce to nonsense the greatest achievements of human thought. That there is such a fact in nature as mind, that its laws may be unfolded, that its operations may be traced, that it furnishes us with a basis of scientific reasoning as evident, as certain, as comprehensive, as anything supplied by the ex-

ternal universe, is a principle respecting which the most opposite schools have no dispute. Leibnitz and Kant and Mill and Spencer here stood upon the same ground.

So far as our present argument is concerned we do not need to discuss the various conflicting theories respecting the nature or origin of mind. These have no direct bearing on the existence and operation of mind as a fact of human consciousness. Intellectual processes, in themselves considered, are as real as gravitation or electricity, and it is with these processes alone that we are here concerned. It is, however, important to observe that, however close and intricate the relations of mind to organized and living matter, modern physical science has not yet advanced a single step in the direction of proving that they are not radically and essentially distinct. We may concede to the materialist that we know the phenomena of mind only as manifested through a material organization, and that, so far as our experience can inform us, no mind has ever existed except in connection with a material frame. We may concede that the powers and faculties of the mind are always arranged in close correspondence with the energies and functions of this material structure. We may concede that mind is always dependent on some material organization for the exercise of many of its activities, yet the inherent and radical distinction between the two reveals itself to the most superficial survey.

Mr. Huxley, indeed, tells us that "all vital action may be the result of the molecular forces of the protoplasm which displays it. And if so, it must be true in the same sense, and to the same extent, that

the thoughts to which I am now giving utterance, and your thoughts regarding them, are the expression of molecular changes in that matter of life which is the source of our other vital phenomena." And again, "as the electric force, the light waves, and the nerve vibrations, caused by the impact of the light waves on the retina, are all expressions of the molecular changes which are taking place in the elements of the battery, so consciousness is in the same sense an expression of the molecular changes which take place in that nervous matter which is the organ of consciousness."[1] Yet Mr. Huxley finds it necessary to recognize a clear distinction between brain-movements and thoughts, and he indorses the opinion of Tyndall that "the passage from the physics of the brain to the corresponding thoughts of consciousness is unthinkable." We cannot reason, Dr. Tyndall declares emphatically, from physical to mental phenomena. How these two classes of facts are connected we cannot tell. "The chasm between them" still remains for us "intellectually impassable."[2]

Dr. Carpenter has put this distinction clearly in a passage which I will quote: —

"The connection between mind and body is such that the actions of each have, in their present state of existence . . . . a definite causal relation to those of the other, so that the actions of our minds, in so far as they are carried on without any interference from our will, may be considered as functions of the brain. On the other hand, in the control which the will can exert over the direction of the thoughts, and over the motive force exerted by the

[1] *Physical Basis of Life* (*Lay Sermons*, etc., N. Y., 1871), p. 138.
[2] Address at Norwich (1868).

feelings, we have the evidence of a new and independent Power, which may either oppose or concur with the automatic tendencies, and which, according as it is habitually exerted, tends to render the ego a free agent. And truly in the existence of this Power, which is capable of thus regulating the very highest of these operations that are causally related to corporeal states, we find a better evidence than we gain from the study of any other part of our psychical nature, that there is an entity wherein man's nobility essentially consists, which does not depend for its existence on any play of physical or vital forces, but which makes these forces subservient to its determinations. It is, in fact, in virtue of the will that we are *not* mere thinking automata."[1]

This does not in the least explain the connection of mind and body, but simply asserts, as an indisputable fact, their inherent and radical distinction. The various explanations which have been proposed on the side of physical science, of the relation between the physical and mental processes, may be reduced to three: —

1. The theory that mental acts are distinct from nerve-changes, yet in some way products of them.

2. The theory which conceives the alliance between mental and physical processes to be so intimate that they are not successive and distinct, but strictly concomitant and inseparable acts, forming, in reality, but one series with two sides.

3. The extreme theory which converts this inseparable concomitance into absolute identity. In this view matter and mind are one. The statement of the theories is enough to show that physical science is wholly incompetent to deal with the problem. In

[1] *Mental Physiology*, pp. 26, 27.

short, the only legitimate attitude of physical science towards mental phenomena is to ignore them altogether. For if we proceed to the logical extreme of identifying mind and matter, it virtually amounts to saying that the material universe, with its phenomena, has no existence.

Nor are we any more debarred from appealing to the facts of consciousness by any theory of the origin of mind. What we have to do with, in our present argument, is mind as it now exists, and as its workings are revealed to us in our own conscious personality, not with mind in its primordial beginnings. Suppose it could be shown, as is claimed by Mr. Spencer, that what we are conscious of as intelligence is simply the climax of a series of existences, rising from one another in an orderly and progressive gradation, each one preparing the way for the next, and all at last represented in that crowning and consummate result, — the mind of man. According to this view, the lowest form of matter obeyed only mechanical laws. The particles were held together by cohesive attraction. In the series next above appeared bodies endowed with chemical properties and combinations. Still higher, were shown the crystalline arrangement of matter. Next appeared the lowest types of organized existence, and these, under the requisite conditions, developed from vegetable to animal life, and so at length, in connection with more perfectly and delicately organized structures, the phenomena of mind began to appear, requiring for their perfect manifestation all the lower forms of life.

But conceding, for the moment, the possibility of this daring hypothesis, the appeal which we now

are making to the facts of consciousness would not be, in the least, invalidated. Even going to the full extent of assuming that mind, by this process, is evolved from matter, inconceivable as such a supposition must seem, the real existence of mind as mind would not be disproved. To those who believe in a first cause, and who recognize design in the works of nature, this would simply be a method of creative action. Suppose we were able to trace "the myriad stages of the composition of mind from the reflex contractions of a rudimentary fin, up to the generalizations of an Aristotle or a Newton," matter and mind, as they are now presented to us, would remain equally distinct, and as the last and crowning result of the long process, mind would be more than ever the source of our highest knowledge of the method of creation, and from the phenomena of mind, with far more assurance than from the phenomena of matter, might we reason respecting the nature and operations of that supreme cause from which the phenomena of matter and of mind alike proceed. Man would remain the highest and most perfect expression of the method of nature.

In now passing, as I have shown that we are fully justified in doing, from the phenomena of matter to the phenomena of mind, there is one truth that we need to keep clearly in view, — that we do not pass from the region of law. We have seen, in an earlier stage of our discussion, that the universal reign of law is the one great fact that we are everywhere forced to recognize. Its presence is more apparent in the world without us. It is first suggested to us in the uniform motion of the heavenly bodies. It is the primitive and common speech that day every-

where utters unto day. But science has taught us that not alone the regular and uniform occurrences of nature, but what seem, at first sight, its most surprising and inexplicable phenomena, are all correlated under the same principle, and that the further we push our search the more evident does it become that one single force manifests itself under all these manifold and changing aspects. The phenomena of mind are more obscure: they inevitably lead us back to a more remote region of inquiry; yet here, too, as we advance, we find facts ranging themselves under an observed order, and cannot doubt that the chain of causes and effects is equally indissoluble.

This principle is, in fact, the necessary postulate of all mental science. All that we term science is simply the tracing of laws, and the combination of manifold and various laws under a common principle. So that there can be no science of mind unless there be an observed order of mental phenomena, and unless these phenomena are capable of being reduced under some common principle. One palpable form in which this subjection of mind to law is presented to us is in the close connection of mental phenomena with our physical organism. In the exercise of the higher faculties of our reason we seem, indeed, to be wholly independent of our bodies. We pass, at will, from one mental state to another; we revive trains of thought long buried in the past; in imagination we surround ourselves with ideal scenes; we pass on to the distant future, we fly with wings, fleeter than those of light itself, to the remotest bounds of space; we seem free from dependence upon any material organism; but the instant that fatigue or disease comes, we realize how closely,

after all, we are bound up with the material conditions of our being. At one moment we are in the heavens, at the next we are creatures of the earth.

In proceeding to analyze, more closely, these mental phenomena, we are brought into contact with different classes of facts. We have already seen that mental are distinguished from physical phenomena by differences far greater than those which mark mere physical phenomena. It is a difference wholly distinct and peculiar. Matter, as we all know, may pass through many transformations; it may assume many shapes; it may disguise itself under very different masks, and may seem to perform very different functions, yet, after all, it never ceases to be an object of sense. No experiment has ever yet succeeded in converting a material substance into an idea; it remains, after all its protean changes, something extended, divisible, movable, an object of sense, qualities which pure thought never possesses. Those, even, who assert most strongly that matter and mind are but two sides of a double-faced unity, have never succeeded in showing that these contrasted qualities can cohere in a single substance, that thought can be combined with extension or weight. We have also seen, from the acknowledgments of the foremost men of science, that no investigation of molecular changes in the brain has advanced us a step towards explaining mental states. They are as inexplicable as ever.

But there are other facts revealed in consciousness which we have not yet considered. The first of these is the mysterious unity of consciousness, which many regard as the most invincible argument against materialism. How can this be explained

if the mind be regarded as nothing but successive physical states of the brain? Connected closely with this, is the consciousness of personal identity, a fact as clearly revealed as the fact of existence itself, and amply attested in every moment of our lives, but a fact that we seek, in vain, to harmonize with the theory that man is merely a material existence, the elements and atoms of which are in a state of perpetual change. In this consciousness of personal identity, the mind distinguishes itself, not only from external objects, but just as much from its own body, and even from its brain. But, beyond all this, — and here is the point at which all along I have been aiming to arrive, — the mind is conscious of an internal spontaneity. It is not only conscious of itself, as distinct from the external world, and from its own body, but is no less conscious of itself as an active, willing agent, producing results, by its own volition, in itself and in the world without.

And here we are brought face to face with the most astonishing and inexplicable fact that nature anywhere presents, the phenomena of the human will. The existence of this will we need have no hesitation in affirming as a fact. The difficult problems connected with its nature and mode of operation we need not here discuss. That our wills should be determined by motives, that in so many cases where consciousness assures us that we are acting freely we should be governed by underlying impulses, of which we have no consciousness, that what seem our voluntary actions should, in so many instances, follow a course marked out for them by conditions over which we had no control, and which we even fail to recognize, — all these are aspects of

the question with which we need not here concern ourselves. What we have now to do with is volition, simply as it emerges into consciousness, with the will as it reveals itself in the higher processes of our being, where we directly know ourselves as active and free agents. That, by the exercise of his will, man can produce changes in himself, and in the external world, is a fact which we need not stop to prove.

It is not at all with the nature or origin of will, but simply with its mode of operation that we are here dealing. We are conscious of a volition, we put forth an effort, — we produce a result, that is the simple and familiar chain of facts which we need to keep before us. And, in this process, we find the highest proof of our personal existence, the supreme and ineradicable fact that separates our conscious, thinking selves from the physical universe with which we are so closely and in so many ways connected. The phenomenon which we here perceive we have no reason for separating from other phenomena. Whether we study the influence of matter upon mind, or the influence of mind upon matter, we have no reason for supposing that we are exempt from that reign of law which we have recognized as everywhere present. Here, as always, we have an order of facts, and, like every other order of facts, it implies a force, or an arrangement of forces, out of which this order has come. This exercise of volition, in the accomplishment of a definite purpose, with which we are so familiar, is part and parcel of the great order and harmony which pervades the universe.

Let us now return to two principles which we have

already discussed, — the principle of causality and the doctrine of the conservation of energy. Modern science has brought us to the conclusion that the phenomena of nature are not simply a series of sequences, not simply an infinite variety of observed facts occurring in orderly succession, but that they also afford evidence of the presence and constant operation of a mysterious power or force. What we perceive by the senses are indeed but a series of phenomena, and what we term the laws of nature are the generalized expression of these facts. But this is not the whole. We cannot rest at this point. Every change is a revelation, not only of succession, but of causal power. No matter where we take our stand, no matter whether we contemplate physical or mental phenomena, this conviction is forced upon us. But what is this mysterious force? No keen scrutiny of science has ever been able to detect it. It announces its presence in every change that takes place around us, but when we look for it, it hides its face from us. The mighty masters of science have wrestled with it, yet like the angel who wrestled with Jacob, it will not reveal its name.

But one fact has been established, which ranks as one of the greatest discoveries of modern times, that all forms of force are convertible among themselves. In other words, they are ultimately identical, and are endlessly passing and repassing into one another. So that, at last, we are brought to the recognition of one supreme force, everywhere present, everywhere acting, the fountain of all changes, pulsating in every part, in the grandest, and in the minutest, forms of the mighty whole. This force, while endlessly assuming new shapes, is never increased or

lessened; nothing adds to it, nothing takes from it, it never slumbers nor sleeps. In striving to reason back to the real nature of this mysterious entity, we cannot reach an abstract conception by eliminating what is peculiar in each of its manifestations, for while present in all, it is identified with none. Each individual phenomenon is simply its passing shape. We must base our inferences respecting it upon the highest exhibition of force which nature presents, and that is our own will. It is only through the consciousness of power within us that we can comprehend power as manifested in the changes of nature. It is our own personality that first flashes light across the external universe.

To answer, then, the question whether the intelligence revealed in nature is simply in nature, or whether it is an intelligence above nature, and directing the processes of nature by its own free determination, we must look at the facts revealed within ourselves. But, let it not be supposed that this argument means that because we are free and independent of nature, that *therefore* the power involved in nature is. We have no right to leap to this bold conclusion. Some of those who seek in human personality the clue to the operation of the supreme cause, have urged this argument in the place of any other, and have thrown aside as worthless all proof derived from a first cause, from the universal order, and from finality. To my mind, when thus advanced as an independent argument, it does not carry full conviction. We cannot thus reason from our own consciousness simply to the constitution of the external universe. For what we regard as our own voluntary action may be but part of a universal sys-

tem, and to infer that the universe results from intelligence and freedom because we ourselves are intelligent and free is assuming that the laws of human nature are universal. We make man the measure of all things.

The force of the foregoing argument is wholly derived from what has been already proved, — that the world had an intelligent cause. What we are now seeking to discover is, whether that intelligent cause was in nature or above it. And, in answering this question, we have a perfect right to reason from the highest type of causal power which nature presents to us. Those who defend the doctrine of immanent finality appeal to instinct as affording the most satisfactory explanation of the method of nature, and hence infer that the finality displayed in nature is unconscious; in other words, the brute creation is made the type of the supreme causal power that frames the world. But the argument which I have here presented reasons not from the lowest, but from the highest exhibition of causal power revealed in nature, and claims that this should be regarded as the type of the supreme cause, and hence that the power that made the world is intelligent and free. The argument proceeds upon the same ground, in either case, and hence must be accepted as equally legitimate. It is simply reasoning respecting the nature of a cause, the existence of which, on both sides, is conceded.

The positive philosophy began with the lowest grade of forces, the mechanical, and from that ascended to the higher. The more spiritual, and more satisfactory, conception of nature to which the school of Schelling introduced us, recognized the

presence of intelligence, but insisted, in the case of Schopenhauer and Hartmann, on illustrating the operations of that intelligence from the most obscure processes of mind known to us, the instinct of the lower animals. Our argument appeals, on the contrary, to the highest known type in intelligent action, the type revealed in our own consciousness, with which we are best acquainted, and from which is derived our only notion of a power outside ourselves. For, it is only through the consciousness of power or energy in our own voluntary actions that we arrive at any conception of power or energy in the external world; we must come back to the human will for any explanation of what we see displayed around us. And as the force of will is both higher and better known to us than the mere mechanical, chemical, or vital forces of nature, we are perfectly warranted, on philosophical grounds, in thus explaining the lower from the higher, rather than reducing the higher to the lower.

Professor Huxley, it is true, assures us that modern science is banishing gradually from all regions of human thought what we call spirit and spontaneity. But when modern science shall have succeeded in doing this, it will involve not only the destruction of all evidence that the universe is the result of a free intelligent cause, but that any events whatever are due to such an origin. The reasoning which obliterates a supreme cause, obliterates every human cause just as much. So that, if science succeeds in proving that the phenomena of nature do not proceed from will, it will demonstrate, just as conclusively, that, in the most ordinary acts of life, we do not bring things to pass by the exercise of volition.

In other words, mere science seeks in vain to explain the realization of a purpose. It cannot trace the connection between mental states and physical changes. So far as physical science is concerned, the acts of the will are on exactly the same level as the operations of nature. Purpose and intelligence are nowhere presented to its view. In fact, the problem of freedom and the problem of design are fundamentally the same. With respect to a directing intelligence no line can be drawn between the processes of nature and the works of man.

LECTURE VIII.

CONSCIENCE AND A MORAL ORDER.

In turning as we have, in the course of our argument, from the phenomena of the external world to the wholly different class of phenomena revealed in man's inner consciousness, we have thus far surveyed only a part of the field presented to us. We have looked at man as a creature of intelligence, as a being endowed with reason, as capable of choice, as forming conscious resolves, and as acting in accordance with preconceived purpose. From these undeniable characteristics of man we have reasoned respecting the processes revealed in nature around him. And we have taken the ground that to explain these processes, to account for the manifest working towards definite ends that nature so unmistakably shows, it is at once more natural and more legitimate to argue from these higher operations of intelligence so directly revealed to us in consciousness, than to argue from the lower operations of instinct only obscurely presented in the brute creation. And thus we have reached the conclusion that the finality shown in nature is the operation of a conscious intelligence distinct from and above nature.

But in thus reasoning we have accomplished only part of our task; we have surveyed only a portion of the phenomena that consciousness presents. For

it is not more certain that man is a rational and intelligent creature, than that man is a moral creature. If it be evident that he is endowed with reason, it is not less evident that he is endowed with conscience. The proof of these two propositions rests upon precisely the same ground, and if we accept the one we must accept the other also. And if we have a right to reason from one class of facts which consciousness attests, we have the same right to reason from the other. The argument in either case is perfectly direct and simple. It is an argument from obvious, clearly attested facts, facts which can only be ignored or denied by denying the existence of human nature itself. Unless we are prepared to go to the extreme of regarding human consciousness as a mere delusion, unless we are willing to reduce the operations of mind to mere physical modifications of the brain, and make volition the inevitable sequence of cause and effect, we cannot deny the existence of a moral sense.

Let us bear in mind that in this whole argument, we are reasoning simply from facts. All that I now claim is that man himself, and the phenomena of his inner consciousness, are just as much facts as anything we can note in the world around us. If then we are willing to admit that man himself is anything more than an illusion, that his active powers are anything more than a passing fancy with which he deceives himself during the few short years of his conscious existence on earth, we must admit, not only that he is an intelligent, but a moral being: that he is capable of distinguishing between right and wrong, that he is influenced by moral emotions, and that he recognizes the existence of moral laws. The

question here raised is simply a question of fact, and the fact that there is an external world is not a fact more directly attested than the fact that man has a conscience which forces him to an approbation of the right and a condemnation of the wrong. When we reason respecting the laws of the external world, or respecting the subtle properties of matter, we are not dealing with facts so clear and so incontestible as when we reason respecting the moral sense. The facts with which we are here brought so closely in contact reveal themselves in our daily lives, and in all our acts. They are not far off, but lie close at hand. They are not inferences from other facts, but facts of which we are directly conscious; not reported to us upon the testimony of others, but part and parcel of our very selves. If we exist, these exist as the essential constituent of our very being. If we cannot assume, as established beyond doubt, these universal and distinctive characteristics of man's moral nature, we have no basis for any inference that we may draw respecting any phenomena whatever. For the test of all knowledge must be found in consciousness. If we cannot confide in consciousness when consciousness reveals to us the existence of moral distinctions, we cannot implicitly trust in what consciousness attests respecting our intellectual processes. The absolute validity of consciousness is not less the basis of philosophy than the basis of morals. Hence Leibnitz truly says: "If our immediate internal experience could possibly deceive us, there could no longer be for us any truth of fact; nay, nor any truth of reason."[1]

And let it further be observed that, as our argu-

[1] [*Nouveaux Essais*, lib. ii. c. 27, § 13.]

ment proceeds simply from facts, we are not at present concerned with any speculations respecting the origin of what is termed the moral sense, or with any subtle analysis of its nature and working. These are questions important in themselves, but they have no immediate connection with what we are now discussing. We are simply looking at man as he is, and are not asking how he came to be so. We are dealing with the phenomena of consciousness simply as facts of universal experience. The explanation of these facts is another matter. No man can doubt that the moral sense exists. We have each of us only to look within ourselves for the unmistakable proofs of its presence and reality. There is not one of us who has not bowed to its imperative sway. It exists as a distinct consciousness of moral law, as recognizing a rule of duty, as always involving a sense of responsibility. It sits in judgment on us. Human nature would not exist, human life would be stripped of its significance, the complex relations we sustain to one another would be divested of value, if this element were lacking.

It is not more evident that man is the supreme fact in nature, than that the possession of a moral sense is the supreme fact in man. It is this, rather than reason, that draws the line between him and the brute creation. The fact that he recognizes the imperative obligations of a moral law is the distinctive fact about him. In the oft-quoted words of Kant: "Two things there are which, the oftener and more steadfastly they are considered, fill the mind with an ever new and ever rising admiration and reverence, — the starry heavens above me, and the moral law within me. Of neither am I compelled

to seek out the reality, as veiled in darkness, or only to conjecture the possibility as lying beyond the hemisphere of my knowledge. Both I contemplate lying clear before me, and connect them immediately with my consciousness of existence. The one departs from the place I occupy in the outer world of sense, and expands the physical connections in which I stand beyond the bounds of imagination, with worlds rising beyond worlds, and systems embraced in systems." "The other departs from my invisible self, from my personality, and represents me in a world, truly infinite indeed, but with which my connection, ... unlike the relation I stand in to the worlds of sense, I am compelled to recognize as universal and necessary."[1]

The most recent theory of the origin of the moral sense, and the only one that we need to refer to here, is the theory which accounts for it as the consequence of evolution, as a development either in the experience of individuals or in the course of ages, out of pleasure and pain, out of benefits and injuries, and which traces the convictions and feelings implied in it to the course of circumstances under which it has grown up. Those who give this explanation readily concede all that we have thus far asserted, — the existence of a moral sense and of moral intuitions in civilized man. It is admitted that man, in his present highly developed state, is endowed with a complex group of emotions leading him to seek the right and to avoid the wrong without any reference to considerations of utility. It is further admitted, that the intuitions of right and wrong, like the intuitions of time and space, are in-

[1] [*Kritik der praktischen Vernunft*, Beschluss.]

dependent of mere individual experience. In this respect, those who hold to the evolution theory of morals really approach nearer to the lofty view of Kant than to the utilitarian theory which referred moral distinction to the experiences which each man has of pleasure and pain.

The evolution theory accounts for moral distinction, not from the experience of the individual, but from the long-continued and ever advancing experience of the race. The explanation is the same as in the case of physical or intellectual growth. Pleasure and pain furnish the starting-point. Pleasure, says Mr. Spencer, is "a feeling which we seek to bring into consciousness and retain there," while pain "is a feeling which we seek to get out of consciousness and keep out." And supposing a race of animals could come into existence which should habitually seek baneful actions as pleasurable and shun useful actions as painful, natural selection would immediately exterminate it. Only those races can exist whose feelings, on the average, result in actions which are in harmony with environing relations. Thus we arrive at the conclusion that pleasure is a state of consciousness accompanying the relatively complete adjustment of inner to outer relations, while pain is a state of consciousness attendant upon the discordance between inner and outer relations. The satisfaction that men sometimes find in injurious activities does not invalidate the general rule, that pleasures and pains are positive or negative conditions of self-preservation.

But we have thus far reached no proper basis for ethical distinction. We can do this only when we so far enlarge our conception of pleasure and pain

as to take into the account not only what concerns the well-being of the individual, but the well-being of the whole body of which he is but a single member. And bearing in mind that this whole body, which at first was but the family or tribe, has come to include the whole race, we have for a basis of ethical distinction, the principle that actions morally right are those which are beneficial to humanity, while actions morally wrong are those which are detrimental to humanity. It is not correct to say, however, that the doctrine of evolution teaches that the moral sense is due merely to the registration through countless ages that some actions benefit humanity, while others injure it, and that from a gradual organization of such inductions all our moral distinctions have arisen. It is equally true that there is also a highly complex feeling of sympathy, the product of a slow emotional evolution, which prompts us to certain lines of conduct irrespective of any conscious estimate of pleasure or utility.[1]

By the more enthusiastic adherents of the doctrine of evolution it is claimed that in no department of inquiry is it illustrated with more truth and grandeur than in its application to the province of ethics, and in the explanation that it furnishes of the origin of moral distinctions. But, while in this deeper synthesis supplied by the theory it is claimed that a common ground is furnished on which the intuitional school and the school of experience, the disciples of Kant and the disciples of Locke, may stand together, it is not maintained that we possess an instinctive and inherited moral

[1] Fiske, *Cosmic Philosophy*, vol. ii., pp. 339, 356.

sense, so that anterior to education or experience, we possess an organic preference for good actions, or an organic repugnance to bad actions; but simply that when we are taught that an action is right or wrong we follow or shun it, without taking in all its ultimate consequences; nor is it denied that when the intelligence is very high there is likely to arise a deliberate pursuit of moral excellence, attended by a distinct knowledge of the elements in which such excellence consists. Such conscious devotion to ends conducive to the happiness of society is the latest and highest product of social evolution.

I have not introduced this brief summary of what is awakening wide discussion just at this moment as a theory of ethics, for the purpose of inquiring what elements of truth are involved in it, or how far it is likely to render any efficient service in reconciling theories that heretofore have stood opposed. We may concede, without hesitation, that it is an advance upon the theory of the old utilitarians; we may accept as sound the principles involved in its representation of the progression of nature, that nature makes for happiness, and that nature gradually prepares the way for the introduction of morality. We may go further than this, and grant that the "intuitions of the moral faculty are the slowly organized results of experience received by the race," and still our reasoning from the facts of moral consciousness would not be in the least affected by these admissions. Grant, for the sake of the argument, that the present moral consciousness of the race is wholly the product of evolution, and that man as a moral being has come to be what he is by a process strictly analogous to that by which

his physical organs have been developed, any inferences deduced from man's moral nature, instead of being weakened, would rather be strengthened by it; for we have already seen that evolution is simply a process, and a process that in no way conflicts with the idea of design. Whether the moral sense is a faculty implanted in man by a supreme intelligence, or whether the moral sense is the result of a long process of development which a supreme intelligence has designed and superintended, are questions which do not in the least affect the authority of conscience, or the validity of the distinctions which it shows. Nay, if we accept this explanation of the genesis of man's moral nature, we must be driven to admit that his moral being, as the last term in the stupendous series of cosmical changes which began with the massing together of nebulous matter in the distant past, represents the highest plane of existence yet attained, and that in reasoning from it we are reasoning on the highest plane to which it is possible to rise. For those, therefore, who hold to evolution, the moral argument must be of necessity the supreme argument. The bar of man's moral consciousness is the very highest tribunal to which we can make our appeal.

Having established this important point, that the argument deduced from the phenomena of man's moral consciousness is wholly independent of any theory as to the origin of his moral nature, let us now set distinctly before us the new stage in our discussion on which we are about to enter, and its relation to what has been accomplished up to this point. It is of the utmost importance to understand precisely what it is that we are attempting to

prove, and to see clearly how far our argument legitimately extends. In the argument presented in the last lecture from human intelligence, it will be remembered that it was not claimed that human intelligence, in itself, furnished the proof of the existence of a supreme being, but that the existence of a supreme cause, having been inferred on the grounds of human intelligence, this latter afforded us the highest illustration of its method of working. In other words, having derived from the facts presented in the external universe the idea of intelligent cause, the phenomena of human volition entitled us to infer that intelligence holds the same relative supremacy in the universe that it holds in us.

The argument which I am now presenting from man's moral nature rests upon precisely the same basis, and has precisely the same scope. I make this explanation here because by many the moral argument has been carried much farther. The phenomena of conscience are so impressive and so distinctly revealed, they possess, in contrast with mere physical phenomena, a character so imperative and constraining, they force themselves so powerfully upon us as the mandates of a superior power, that some have not hesitated to infer that conscience is itself the very will of God in the soul, and that in the mere fact of the existence of a moral sense, we have a proof of the divine existence complete in itself, and not needing to be supplemented by any further evidence. This was the result at which Kant arrived. After having exerted to the utmost his unequaled logical powers, to prove that the unaided reason, by whatever path it searches after God, inevitably loses itself in a maze of self-con-

tradictions, he ends by appealing to the moral faculty as affording an assurance of the divine existence which no cavil of skepticism could affect.

Sir William Hamilton has also given the weight of his authority to the opinion that "the only valid arguments for the existence of God, and for the immortality of the human soul, rest on the ground of man's moral nature,"[1] or as he has elsewhere expressed it, "Theology is wholly dependent on psychology, for with the proof of the moral nature of man stands or falls the proof of the existence of a Deity."[2] Thus the moral nature of man is not made use of as furnishing illustration of the attributes of a being whose existence has been already inferred from other sources, but is exclusively appealed to in proof of the existence of that Being. The argument thus presented by Hamilton is essentially the argument of adequate cause, and its validity depends upon the principle that whatever exists must have had an antecedent at least equal to itself, and hence that man's moral constitution must have proceeded from a cause itself moral. But it is clear that this argument can have no weight unless we have first ascertained precisely how it was that man's moral constitution came to exist. Divorced from the doctrine of a first cause it comes to nothing.

But the argument for the divine existence, derived from conscience, has been presented in still another form, where without any reference to the origin of the moral sense the simple phenomena of conscience are alone taken into account. The force of this argument rests, not on the existence of the moral

[1] [*The Works of Reid*, vol. ii., p. 974 (note U).]
[2] [*Lectures on Metaphysics* (Lect. ii.), vol. i., p. 33.]

sense, as a fact in nature needing to be accounted for, but on its character, and the nature of its teachings. Conscience is here viewed as a spontaneously admonishing influence which acts independently of our own volition, and which thus forces upon us the conviction of something distinct from and above ourselves. The monitions of conscience come to us as a mandate, and carry with them the necessary recognition of something superior to ourselves. When we attentively regard the operations of conscience, it is urged by those who hold this view, the chief thing forced upon our attention is that we find ourselves face to face with a purpose, a purpose not our own, yet one that dominates us, and makes itself felt as ever present, and one that we cannot dissociate from a purposer, who thus furnishes unmistakable indication of his own character.[1]

By no one has this argument been presented with more force and beauty than by Dr. Newman, a writer whose pure and lucid language I am glad to have any excuse for quoting: —

"If, as is the case, we feel responsibility, are ashamed, are frightened, at transgressing the voice of conscience, this implies that there is One to whom we are responsible, before whom we are ashamed, whose claims upon us we fear. If, on doing wrong, we feel the same tearful, broken-hearted sorrow which overwhelms us on hurting a mother; if, in doing right, we enjoy the same sunny serenity of mind, the same soothing, satisfactory delight, which follows on our receiving praise from a father, — we certainly have within us the image of some person to whom our love and veneration look, in whose smile we find our happiness, for whom we yearn, towards whom

[1] See Flint, *Theism*, p. 402.

we direct our pleadings, in whose anger we are troubled and we waste away. These feelings in us are such as require for their exciting cause an intelligent being; we are not affectionate towards a stone, nor do we feel shame before a horse or a dog; we have no remorse or compunction in breaking mere human law: yet so it is; conscience excites all these painful emotions, — confusion, foreboding, self-condemnation; and, on the other hand, it sheds upon us a deep peace, a sense of security, a resignation, and a hope which there is no sensible, no earthly object to elicit. 'The wicked flees when no one pursueth;' then why does he flee? whence his terror? Who is it that he sees in solitude, in darkness, in the hidden chambers of his heart? If the cause of these emotions does not belong to this visible world, the Object to which his perception is directed must be supernatural and divine; and thus the phenomena of conscience as a dictate avail to impress the imagination with the picture of a supreme governor, — a judge, holy, just, powerful, all-seeing, retributive."[1]

But, beautiful and impressive as this statement is, to my mind it is not conclusive. On the contrary, when carefully analyzed, it will be found itself to furnish the evidence that it is only when the moral emotion is illuminated and instructed by ideas derived from a different source that it awakens in the mind such clear conviction of the divine existence. The mere fact that conscience is independent of will is equally true of all our emotions.

Hence I find myself unable to agree with those who would make the moral nature of man the sole and exclusive basis of the argument for the divine existence. It is true that conscience makes us directly cognizant of moral law, and awakens through

[1] *Grammar of Assent*, pp. 105, 106.

reflection the idea of a moral order. But to affirm that conscience is distinctively and exclusively the religious organ of the soul, to represent its primary function to be direct and immediate communion with God, is going much beyond this. In its essence conscience is ethical, not religious. What we immediately apprehend through conscience is the right and wrong in actions. I grant that conscience is the supreme faculty in man, and that the logical inferences to be deduced from the nature and operations of conscience carry us farther in our understanding of the Supreme Being than the arguments derived from any other, or from all other sources, but they do this only when combined with those other arguments. Man does not reach his final conviction of religious truth through any one faculty or organ. He is framed for religion by the whole make and constitution of his nature.

Let me here repeat what I said in a former lecture, that the argument for the divine existence which we are here following out is complex and correlative. Not from one, but from many sources is the evidence derived, and its force lies in the whole, not in any of the separate parts. Neither the phenomena of man's rational nature, nor the phenomena of his moral nature, taken by themselves, would be sufficient to prove the divine existence. But having inferred, from a wholly different source, the existence of a supreme cause, we may reason with confidence from the highest phenomena which nature presents, — man's intellectual and moral nature, — respecting the nature and attributes of that cause. Having established that something must exist beyond and above ourselves, we may legitimately infer,

from what we find in ourselves, what that something must be. Hence we are enabled to see clearly the force and scope of the argument from conscience. It does not claim to prove the existence of a supreme being, but recognizing the existence of that being as already proved, it proceeds to clothe him with his highest and most impressive attributes.

What, then, let us next ask, may we infer respecting the Supreme Being from the moral constitution of man?

In the first place, since the moral constitution of man is part of the general system of nature, the same method of reasoning which we have made use of in dealing with the facts of external nature, we may make use of here. Conscience, as we have already seen, exists within us as the recognition of moral law. It is an inward judge; it continually accuses or excuses; it condemns or approves; it fills the soul with the blissful sense of self-approval, or drives it to remorse and despair with the bitter feeling of self-condemnation; it asserts an imperious sway over body and mind, over appetites and affections and faculties; yet it never claims to do this by any authority of its own. It does not lay down a law, but simply warns us of the existence of a law. Its authority is not original, but derived; in its sternest accents it never speaks but with a delegated voice. The law of conscience is not set by any man for himself, for the characteristic of conscience which is most unmistakable, is that it claims obedience from the will.

Hence, while the direct function of conscience is to discriminate the right and wrong in actions, while its immediate sphere is the human will, it goes far

beyond this. In fact it can perform those functions only in this way. It carries the soul outside of itself, and brings the will before a bar independent of its own impulses. It inevitably awakens in the soul the perception of a moral law, — universal, unchangeable, binding under all circumstances, in short of a moral order of the world analogous to the physical order which it is the province of science to trace and illustrate. The moral consciousness of man refuses to stop short of this conclusion. Man feels himself, not merely related to physical laws, but even more closely and more vitally related to moral laws, laws which not only enter into the structure of his own being, and go to form the framework of human life, but laws which extend beyond himself and his own hopes and struggles, and assert themselves as everywhere supreme. Such recognition of the moral order of the world is not only the highest, but the only conclusion that can satisfy the educated moral consciousness of mankind.

This universal moral order supplies us a basis of reasoning like the physical order which we considered in a former lecture. As from the reason manifest in creation we argued back to the intelligence of the first cause, so in the same way from the moral order we may reason back to the moral attributes of the first cause. We did not infer, in the first instance, that the complex mathematical laws illustrated in the movements of the heavenly bodies were created by the first cause, but simply that they illustrated, and revealed, and made manifest, some of the characteristics of that cause; and so here we do not affirm that the moral order of the world, the unchangeable distinction of right and wrong, sprang

from a supreme will, but that they afford us the means of forming conclusions respecting that will; for it is inconceivable that the Supreme Being should not himself be in harmony with what is highest and most perfect. The laws which we can only conceive of as universal and unchangeable, must be the laws of his own being. We therefore reach the conclusion, that the supreme cause must be not only supremely intelligent, but supremely righteous and good.

It may be objected that we make a bold leap in thus reasoning from the phenomena of our inner consciousness to the nature of an absolute being. But let it always be borne in mind that we are reasoning, not to his existence, but simply to his attributes, and if the inferences which we have already made from the phenomena of the external universe were legitimate, these that we are now making from the facts of moral consciousness cannot be less so. They are equally a part of the whole system of things; and even conceding what is claimed by the school of evolutional moralists, that the moral sense in man is the result of the progressive experience of the race, refined, disciplined, consolidated through countless generations, the moral perceptions being conditioned by the growth of the nervous organism, yet this would not detract from, but would only add to, the force of the argument, since this conviction of a moral order, and all the inferences logically flowing from it, would stand revealed as the highest result of human development, and as the last and highest phenomenon which would furnish the most authoritative postulates for reasoning.

But we may go further than this. The moral con-

stitution of man, like his physical constitution, does more than illustrate the presence and operation of law; it not less clearly reveals the indications of a purpose. When we closely study it, we find manifest evidence that it is a means to an end. The eye is not more distinctly made for seeing and the ear for hearing, than is the conscience fashioned to enable man to discriminate between good and evil. We instinctively recognize this fact when we term it the moral sense. But this purpose which conscience reveals is no more our purpose than is the law which it recognizes our law. It is the purpose of another, which it is our mission in life to realize. Our own purposes are often in conflict with it; our inner consciousness is often tortured and rent asunder by the conflict that thus ensues; but the ends purposed in our moral constitution remain just as certain and as unmistakable. We cannot throw off the conviction that this constant aim is our own moral improvement. We are endowed with this supreme faculty that we may more and more eschew evil and habituate ourselves to do right.

The moral education and discipline of man is, therefore, revealed as the ultimate and highest end of his being. Whatever may be the subordinate ends set before him to realize, the highest and ultimate end is the conformity of his nature to the supreme law of existence, and this law is moral. Moral perfection is the mark set before him, a mark which in his deepest degradation and ignorance he is never able to lose wholly out of sight. But if we reason from the evidences of purpose shown in physical nature, we may also reason from these evidences of purpose in man's moral constitution. If we may

infer that the first cause of nature is rational and free, we may just as confidently argue that he is righteous and holy. Only to such a being could this ultimate purpose, revealed in man's moral nature, be referred. All the feelings and emotions of the soul which are involved in the apprehension of right and wrong, — the approval of conscience when we follow the path of duty, its unfailing condemnation when we wander from that path, — point us to a righteous cause of arrangements so distinctive and universal.

And here again let us note that our conclusion is independent of any theory of the origin of man's moral nature. Let us take the latest and most elaborate statement of the evolutional theory of ethics from Mr. Spencer's recent volume; yet even here, though Mr. Spencer would not acknowledge it, we find clearly indicated the constant and elaborate realization of purpose. When he asserts that nature in all her changes is progressive, and that this progress tends to happiness, and that this tendency is secured by many and intricate adjustments, what have we in all this but indications of a purpose? This adjustment to an end, being itself an effect, implies a cause, and if the end is happiness the cause must be benevolent. The grand law of beneficent progress, revealed in the whole history of the race, is surely as impressive a witness to the character of the supreme cause as anything in the physical constitution of man. But there is another and a higher end in nature than happiness. We have seen that man's moral constitution points to a moral end. The two concur, yet they are distinct. In bringing man to recognize this highest end, evolution furnishes proof of design.

But, I repeat, that this argument proceeds simply from conscience as a fact. We have only to ask, what have we indubitably given in conscience, just as we asked, in a former lecture, what did we have given in the facts of the external world. Our whole reasoning, up to this point, has been reasoning from facts. Doubtless, reasoning from the facts of the inner consciousness should be pursued with caution. The facts lie, indeed, near to each one of us, yet in the nature of the case they are liable to misconception. But the argument has not been rested on single and exceptional phenomena of individual experience, but on the general and distinctive and acknowledged characteristics of man's moral nature. I have been careful to assert nothing the truth of which would not be at once conceded. The argument cannot, therefore, be affected by the possible objection, that man's moral perceptions show every degree of development, and that they are often degraded and false. In reasoning back, as we have, to the character and attributes of the supreme cause, we have reasoned from human nature, as we had a right to do, not in its lowest, but in what is acknowledged to be its highest stage of development.

According to that school with whose conclusions we are now most directly concerned, the answer to the great question of human life must be sought in a complete survey of the history of the universe, as far as it is revealed to human faculties. This survey shows us that throughout all the provinces of nature may be traced the aspect of a stupendous process of evolution, which is alike exemplified in the development of our planetary system from a

relatively homogeneous mass of vapor, in the increasing physical and chemical diversity and interdependence of the various portions of the surface of our cooling earth, and in the wonderful differentiations by which solar radiance is metamorphosed into the countless forms of energy manifested in winds and waves, in plants and animals, and in reasoning men. The progress has always been from the lower to the higher, — life, whether in its lower or its higher forms, consisting in a series of adjustments between the organism and its environments, till, at length, as the crown and glory of the complicated movement, man appeared, endowed with intellect and with moral sense, the mark toward which nature had all along been striving.

Now all that I claim is that in any reasoning respecting the ultimate ground, or first cause of this stupendous process, man himself, as the last, the highest, the most clearly comprehended result, should be the starting-point and postulate of our argument. I care not whence he came, or how he was fashioned in the womb of unrecorded time; I take him just as he is, as the most wonderful fact that nature has to show. As from the phenomena of man's will, rather than from the instinct of brutes, we reasoned respecting the nature of that causal power which lies behind the ever-changing phenomena of the physical world, so from man's moral nature, as confessedly the highest manifestation of conscious life known to us, we have reasoned respecting the moral character and attributes of that being by whom this moral sense was called into existence. From the highest known we reason respecting the highest unknown. Not in the starry

heavens, not in the wonderful adaptations and arrangements of organic nature, not in the lower forms of conscious life, but in man, the crown and glory of all, do we have the clearest image of the invisible maker.

Reasoning from this lofty premise of man's moral nature, we are led to the conclusion that man is subject to a moral law, and this moral law resolves itself into a universal moral order, the counterpart of the order and harmony shown in the physical universe. We are led to accept the contents of the moral law as a revelation of the moral attributes of the supreme cause, precisely as we are led to accept the characteristics of the physical universe as evidence of his rational attributes. If the facts presented authorize the inference in the one case, they authorize it equally in the other. We are not adopting any different method of reasoning, and are not pushing the argument to any greater extreme. In either case, the reasoning is inductive, and the argument rests on the basis of fact. And the facts, in either case, are acknowledged by all. The phenomena of the external world are shown in the speech which day utters to day, and the knowledge which night showeth to night, and the phenomena of the moral consciousness, however we may account for them, are uttered not less distinctly in every language spoken under heaven!

But precisely at this point in our argument we are brought face to face with grave difficulties, — difficulties that must be met and fairly considered before we can proceed further. Granted that the soul of man is conscious of these moral emotions; granted that it inwardly realizes a moral law to

which it owes obedience; granted that in view of its relation to this law it is rewarded with approval or tortured with remorse, still what reason have we to infer that there exists any external reality corresponding with these emotions? If these phenomena go to prove the existence of moral laws, and of a moral order, are there not other facts which go as much to prove the opposite? Are there not anomalies in human life which are inconsistent with the idea of moral government; are there not dark facts, and these not few in number, but countless and various and everywhere present, which contradict this testimony of the moral sense, and forbid us to believe that there is any such moral order of the world as conscience attests? Is the presence of so much misery and sin to be reconciled with the idea of a moral government?

In proceeding to consider this objection, let us note at the outset that the facts here alleged in opposition to the doctrine of a moral government, facts, let us frankly avow, which cannot be denied or gainsaid, will be found on examination to be analagous to similar defects in the physical world, which have in the same way been used as arguments against the divine wisdom and power. In the case of physical phenomena, however, the advance of science has steadily tended to remove these difficulties. To the first savage who gazed with wonder at the heavens, the movements of the celestial bodies must have seemed full of anomalies. Only after long and repeated observation was a correct and coherent theory of their movements reached. And not till the most refined analysis of mathematical science was called into requisition, was it finally

demonstrated that what seemed their most anomalous and eccentric movements were only more striking and convincing illustrations of the simple and universal law which caused the tides to rise and fall, and steered with unerring precision the course of the comet in its furthest flight. The seeming disorder was not in nature, but in man's limited and partial vision.

I know there have been those, even in our own time, who have claimed that the general arrangements of the universe might be very considerably improved. Thus the founder of the positive philosophy has argued that there is no evidence of intelligence or design in the solar system, because its elements and members have not been disposed of in the most advantageous manner. As, however, Comte himself has declared that we know nothing whatever of final causes, and hence can know nothing of the purpose which the arrangements of nature were meant to accomplish, it is not easy to see how we are qualified to form an opinion on the question whether these arrangements are the best or not. If I am shown an intricate machine, the purpose of which I not only do not know, but am incapable of comprehending, of how much worth is my opinion as to the usefulness of that machine. Or if I stand at the beginning of a road, and do not know where it leads, it would seem somewhat presumptuous in me to claim that I can point out a more direct route to the same destination. Criticism of the arrangements of nature, absurd in any case, are a self-contradiction in such as deny design.

These arguments urged against the inorganic world have been urged even more strongly against

organic nature. Here, it is claimed, we are confronted with more striking anomalies, and with more inexplicable contradictions. Thus there are organs, it is said, which have no use, and other organs so imperfectly developed as to be capable of serving no useful function. And even those organs which are most highly developed, and the elaborate arrangements of which seem most apparent, have been subjected to a searching criticism and pronounced ill adapted to the purpose claimed for them. Thus it has been argued that the eye itself is not a perfect optical instrument, and that a much better might be contrived. And it has been claimed that many arrangements in nature serve only to inflict pain or cause destruction. And finally, the abortions and monstrous productions of nature are arrayed against the doctrine that the first cause of organic existence was wise and good. If we fairly weigh, it is argued by those who hold this view, all the phenomena of nature, the difficulties which we encounter will fully offset any argument to be derived from the proofs of intelligence and benevolence.

No one can deny these facts, and no thoughtful person can close his eye to the dark shadow cast over nature by the universal presence of physical evil. The history of suffering began on our planet ages before man existed. Geology shows that the earth was a scene of suffering and destruction, of violence and disease and agony and death, from the earliest epoch of animated existence. And not only were all creatures made subject to suffering, but as they advanced in the stages of growth, and became more highly organized, their suffering be-

came more acute. Physical pain, instead of being gradually eliminated, constantly increased, and the higher and more varied the endowments of any creature, the more acute became his sensibility alike to pleasure and pain, till, at last, man, the crown and completion of organic nature, curiously summing up and reflecting in himself the functions and attributes of the lower creatures, was racked and tortured by pains of which they could have no conception. He purchases life by the physical torture of another, and at last longs for the grave, as the only place where the weary are at rest.

The general answer to these objections lies on the surface. We need only briefly to restate what has been often urged. Even could it be proved that undeniable defects may be discerned in the arrangements of the external universe, there might still remain sufficient proof of the wisdom and goodness of its author. Because intelligence and goodness are not everywhere shown, it does not follow that there is no proof of intelligence and goodness whatever. The question whether the universe had its origin in intelligence is entirely different from the question whether the intelligence shown in the universe is perfect; and at this stage of the argument the two questions should not be confounded.

But further, in undertaking to show that there are defects and imperfections in the present system of things, it is obvious that we ought to proceed with caution. From our present point of view these defects may be apparent, but it does not follow, of necessity, that they are real. The inquiry upon which we here enter is a very large one, and

there are many considerations that should be borne in mind before we undertake to answer it. We are throwing our plummet into water that is very deep.

If it would be gross presumption in us to undertake to criticise a complicated piece of mechanism, the design of which we very imperfectly comprehend, it surely becomes us to pause before pronouncing with confidence upon the structure of the universe. We see but a very small portion of it, and understand but little of that we see. While this limited knowledge need not prevent us from recognizing such indications of intelligence as fall clearly and unmistakably within the range of our survey, it ought to deter us from pronouncing an opinion with regard to things the wisdom of which we fail to recognize. That they are unmixed and absolute evils does not follow from the mere fact that we do not perceive that they are good. In other words, we have a positive argument, which is not invalidated by an argument which may be only apparently negative. Most of the anomalies which at first perplexed us in the inorganic world have faded away in the increasing light of scientific research; and reasoning from analogy, we should be prepared to expect that the seeming incongruities and contradictions in organic nature will be explained in a wider comprehension of the whole system of things.

For we cannot bear too strongly in mind the great principle, which every advance in science tends to establish, that all nature forms one great whole, the parts of which are curiously related and interdependent, and that the manifold uses and relations of all these parts to one another must be

taken into account before we can undertake to pass any judgment upon them. Could we survey the whole universe, and mark how all its parts are related to each other and to the whole, we might determine whether an apparent defect in it was real, but not before. Nor is it simply by the present relations of these parts to one another that they are to be judged, but by their relation to all the past and to all the future of the whole system of things. A child may view the complicated engine of a great modern steamer. He has been taught the general theory on which engines are constructed; he understands the properties of steam; his mechanical knowledge enables him at once to comprehend the function of the piston and the crank, and to see how power is transmitted to the shaft. But he will be puzzled by many elaborate contrivances, some of which will not be called into play till a wholly new emergency arises.

The existence of so much actual pain and suffering presents a darker problem, a problem which the human mind, with its present knowledge, may not be able to solve. Yet there are considerations here which deserve attention. It is easy to see that pain serves some useful purposes. It has a preservative use, and supplies a needed warning against the approach of danger. Without this constant monition animals would be continually running into peril. To this extent, therefore, pain may be regarded as a proof of benevolence on the part of the author of nature. Again, pain is a powerful stimulus to exertion. The keen sense of hunger stirs us to secure food, and those animals which depend most on their own energies for self support are precisely the ani-

mals which rank highest in the scale of animated beings. And here it should be noticed that if the theory of evolution be accepted as established, all these seeming defects and anomalies of the organic world afford new proofs of a wise and benevolent purpose in the arrangement of things, since they must all be regarded as the necessary means and conditions of the preservation and improvement of successive races. Evolution removes many difficulties in the natural world.

I do not urge these considerations as a solution of the mystery of physical pain and suffering, but simply as showing that, with our limited understanding of the matter, pain and suffering cannot be fairly shown to conflict with the positive proofs of benevolence which the universe presents. The same line of argument will help us when we advance to the darker mystery of moral evil. The same reasons which forbid us to infer that suffering is inconsistent with the divine goodness, will make us shrink from the conclusion that moral evil is inconsistent with the divine righteousness. In neither case can human reason reach any complete solution of the problem, yet with regard to both these questions we may safely take the ground that positive proof, on the one hand, is not invalidated by partial knowledge on the other. That there is a law of right, is revealed to us in consciousness, that the government of the world must conform to this supreme law is a conviction which is forced upon the mind with a power too overwhelming to be shaken by any doubts or misgivings which may arise when we fail to trace this law in the tangled web of human experience.

We may ask the old question, why a perfectly holy

being should permit sin to exist at all. No doubt we can conceive of intelligent creatures so formed as always to follow the path of right. Why then should a man have been brought into existence certain to go astray? But we have seen, in the physical world, that sensibility to pain and suffering keeps pace with higher endowment, and that those who enjoy most are also liable to suffer most. As we rise from the sphere of physical to the sphere of moral life, the same rule holds, and the greater the endowment the greater becomes the liability to its abuse. The highest endowment of all is the free agency, in the very nature of which is involved the possibility that man may rebel against the moral law. If moral beings were to exist in the universe at all, so far as we can see they could only exist under this condition. The question, therefore, whether moral evil should exist, resolves itself into the question, whether man himself should exist. But the question, why the world should have been constituted as it is, or why it should not have been a different world, is a question which we are not here discussing.

All that we have to show is that the existence of moral evil is not inconsistent with the idea of moral government. We have seen that liability to sin is involved in the idea of free agency; it is not less true that the existence of moral disorder implies moral order. For, it is evident, that moral disorder can exist only as the counterpart and antithesis of moral order, for the very notion of moral evil implies a good which it contravenes, and a moral law by which it is condemned. We cannot conceive of a being as perverted and depraved, unless we have in our minds the idea of a moral standard to which that being has

failed to conform. Sin is not primary and original, but secondary and derivative. We can only be conscious of it as violation of law. If, then, we admit the existence in the universe of any such thing as moral evil, we must admit the presence and imperative sway of moral law. The two conceptions are correlates of one another. We may take the ground that the sense of sin in man is a delusion, we may confound the distinction between moral and physical impulses, but if we recognize the mystery of moral evil we must recognize the reality of moral law.

Furthermore, in considering the problem of moral evil we should have always in mind what was shown with regard to physical evil: that the narrow field open to our vision is only part of a general system of things. The laws of the moral, like the laws of the physical world, are connected together and form a great whole; and the wisdom or justice of any specific arrangement can be estimated rightly only by one to whose gaze the whole is revealed. We can clearly perceive that much of the moral evil existing in the world is incidental to such a system. If this principle fails to yield a complete evolution of the problem, we are still not authorized to conclude that the unknown remainder is in conflict with the results already reached. The solid fact on which we stand is the moral sense. We have clearly revealed in moral consciousness the existence and authority of moral law. Many of the facts of human life tend powerfully to confirm this testimony; some seem to contradict it. But contradictions, the real import and force of which we have no means of estimating, cannot weigh against a testimony of which we are directly conscious.

LECTURE IX.

HISTORY AND A MORAL PURPOSE.

In reasoning back, as we have thus far, from the facts of man's moral consciousness to the existence of a moral law, and as a legitimate inference from this, to the existence of moral attributes in the first cause, we have considered the facts of consciousness simply as presented in the individual. Our starting-point has been what each one of us knows of himself. This self-consciousness we have assumed as a fact directly revealed, and we have reasoned from it precisely as we reason from any fact given in nature. Man, whatever else we may say of him, is a natural phenomenon, and all that belongs to man must be accepted as part of the whole system of things. His moral consciousness is as indubitable a fact as anything presented in the physical universe. All that is required for the validity of the argument is to discriminate carefully between what belongs simply to the individual and what belongs to man as man. Or, in other words, the argument from moral consciousness makes its appeal to facts in man's moral nature which are recognized as universal.

But this argument may be greatly extended and strengthened by being considered from a different point. Man is something more than an individual; he is a member of a race; he is an integral part of a great human family. It is not more certain that he

exists, than that he exists in connection with other beings like himself, and that his existence is conditioned by theirs. The individual is part of the whole, and all are members one of another. No one of us could be precisely what he is but for others existing around us. Nor are we determined simply by these present conditions. Not only those who exist with us, but all those who have existed before us, are in a certain sense a part of ourselves. Their existence was just as much the condition of our existence, and no one of us could be what he is but for influences which they have put in motion. Thus each one of us was shaped by influences that existed before he was born, influences that were not only immediate, but remote, and that go back to the beginning of time. So we are led back to the most impressive fact presented in human history, — that of the unity of the race.

The question which now presents itself is, whether we can apply to the race the same method of reasoning which we have applied to the individual. As we have deduced from the facts of individual consciousness the presence and binding authority of moral law, can we deduce the same conclusion from the facts of human history considered on a large scale. From the long and checkered story of the human race, from its incessant struggles, from its ever-changing and apparently confused and bewildering phases, from its alternating epochs of decay and growth, of decline and progress, can we draw any valid and satisfactory inference respecting a moral government of the world. The question is evidently the supreme question of historical study. It dominates over every other, and unless it can be

answered, all other historical questions can claim only a very limited and secondary interest. Questions as to the origin of races and of nations, as to the source and growth of political institutions, as to the rise and fall of dynasties, sink into insignificance when we once set before us this solemn question as to the meaning of human history itself.

And while, for convenience, we here consider the argument from individual consciousness and the argument from history as separate and apart, yet it is evident that they are closely connected, and that one depends upon the other. The facts of history are so complicated and confused, they present, when looked at externally, so little evidence of order and connection, that we should seek in vain to wind our way through the labyrinth without the clew that individual consciousness affords. Without the light cast upon the facts of history by our own inner conviction of the reality of a moral law, we should find that law nowhere printed on its pages. The argument from history must therefore follow, and not precede, the argument from the moral sense. Unless we have first satisfied ourselves, beyond a doubt, that man is a moral creature, and that he recognizes his responsibility to a moral law, we shall see human history as a mere physical progression, such as that which the slow growth of the oak, through centuries of storm and sunshine shows, or the restless heaving of an ocean, whose alternating ebb and flow show no orderly progression.

The specific inquiry which presents itself, then, at this stage of our argument, is this: whether the history of the race, considered as a whole, confirms the testimony of the individual consciousness as to the

existence of a moral order. But to reach a satisfactory answer to this question, we have evidently first to ascertain whether any conception of order, or uniformity, or law, can be applied to history. Unless we can first demonstrate that such a conception of human society as brings it within the domain of law is not absurd or self-contradictory, it will be idle to attempt to trace the presence of moral law. The progress of science has accustomed us to recognize the presence and reign of law throughout the natural world. Not only the orderly phenomena presented in the motions of the heavenly bodies, but what seemed the most discordant and irregular and abnormal processes of nature, are now seen to be reduced under this common principle. Our charts are no longer confined to the solid shore, but mark out as well the windings of ocean currents, and we turn with confidence to our morning papers for the indications of the storm that is slowly gathering on the slopes of the Rocky Mountains.

But when we turn our gaze from external nature to those voluntary acts of man which form the sum and substance of human history, we shrink from applying this universal rule. At first sight it seems to us that we have passed to a wholly different sphere, where the principles which regulate the physical universe cannot apply. We are now dealing, not with the phenomena of matter, but with the phenomena of spirit; and we instinctively refuse to submit our consciousness of free agency to a principle which seemingly reduces all human acts to inevitable fate. The application of law to history seems to place the phenomena of human consciousness on a level with physical facts, and human life becomes like the flow-

ering of a plant, or like the certain evolution of the tree from its seed. Hence the attempt to apply to history the methods of science, the mere suggestion, even, that the phenomena of history can be grouped under general principles, that the movements of human society have conformed to any fixed and ascertainable laws, has awakened in many quarters an earnest opposition, on the ground that such a view is inconsistent with any religious theory of human life.

Yet, in spite of the repugnance at first awakened by the suggestion that human history is thus governed by general laws, it cannot be denied that the tendency of human thought, when earnestly applied to the study of history, has been in this direction. The human mind is so made that it instinctively recoils from the recognition, in any sphere, of nothing but disorder and confusion. And when, by its more profound and accurate study of physical phenomena it had been trained in the habit of tracing everywhere the presence of law, it all the more shrank from the conclusion that, in the highest sphere of natural operations, law should not somehow be found acting. The ancient observer, with his fragmentary and discordant view of nature, might rest content with likening human history to a restless waste of waters; but the modern mind, by the intellectual methods to which it has become habituated, is forced to trace unity and order in all phenomena, and reject as incredible the notion that a principle so clearly and so universally manifested in all the lower stages of creation, should be wholly suspended or annulled when we turn our investigation to the higher.

The historic method has been aptly and truly described as the characteristic intellectual habit of the present age. We study facts, not simply as they are presented to us at the present instant, but in the whole course of their development. To know the human functions in their full action we go back even to man's embryonic life, and trace the successive stages by which each part has come to be precisely what it is. To comprehend the laws of speech, and the subtle analogies of language, we are not content to study the literature of a nation at its epoch of supreme perfection, or even to trace the history of a single tongue, but compare dialect with dialect, and syntax with syntax, in all the successive stages of their growth, till we go back beyond recorded time and lift the mysterious veil that hides the beginnings of nations and tribes. And, in doing this, we recognize the great truth, that both the human frame and human speech have passed through successive but connected states, that each state has been, in turn, a cause and an effect; and a common law of growth and evolution has bound them all together, leading on to a definite result.

Comparative philology, with all the splendid inferences derived from it respecting the early history and migrations of the human family, rests upon the postulate that language is an evolution, that this evolution conforms to fixed laws, and that these laws can be ascertained. But the growth of language is a rational process, for the possession of language is the universal characteristic which marks man as a rational being. It is not a part of his physical structure, but springs out of his supreme intellectual endowments. The growth of language is the most

evident and certain index of his rational development, the delicacy and refinement and precision of his modes of speech always keeping pace with his mental stature. It follows, therefore, that man in his intellectual growth is subject to law, and that his mental, not less than his physical characteristics, are evolved in regular succession, and in accordance with definite methods. No other conclusion than this can be reconciled with the facts which the history of language, and the history of human society, alike present. We trace everywhere the presence of uniformity, of order, of law.

And if, granting all this, it may be objected that the law thus manifested in human actions, and in human society, must be, after all, a wholly different kind of law from that so clearly revealed in the operations of physical nature, we may ask in reply what proof is there of this. For we have already seen, in an earlier part of our discussion, that what we term laws of physical nature are simply the operation of forces, and that the tendency of science is to reduce all these to the manifestations of a single force, of which they are but modifications, and into which they continually pass, and so far as we can see this ultimate force may be simply will. So far as we can see in nature, the principles of arrangement which govern the relations of forces are purely mental, and the most adequate conception we can form of force is derived directly from our own consciousness of vital power. If this be true, it follows that the law which manifests itself in the phenomena of matter, and the law which manifests itself in the phenomena of mind, may be the same law, or law in precisely the same sense is equally present and equally operative in either sphere.

The conclusion here reached is one of so much importance that it may be well, before going further, to indicate more fully the grounds on which it rests. And here let me repeat what I have stated before, that this whole argument in which we are engaged proceeds from facts. I am not attempting an *a priori*, but an *a posteriori*, demonstration. My steady aim from the beginning has been, not to reason from abstract premises, but from the evident and acknowledged phenomena of nature and of life, not from the unknown to the known, but from the known to the unknown. We began with the facts given in the external world; from those we argued back to an intelligent cause; we proceeded next to the facts of human consciousness, and from those argued back to a moral cause. We are now, in the same way, dealing with the facts of human history, viewed on a large scale, and in their manifest connections. But our present starting-point, just as much as when we fixed our gaze upon the uniform movements of the heavenly bodies, or the arrangements of man's physical frame, is the domain of facts. Of these human history, in its various forms of written annals, literature, art, institutions, manners, philosophy, religion, is simply the record. Not only is the history of man, taken as a whole, a great fact, but it is the greatest of all facts of which we can have any direct knowledge. Without any disparagement of the natural sciences, and recognizing to the fullest extent the enormous and splendid progress of physical discovery in our own time, I still assert, with confidence, that man and his achievements still form the noblest and most interesting subject of human inquiry. As the highest product of nature is human

intelligence and human character, so the investigation of the phenomena presented in human life opens the highest field of human research. We are borne, in this generation, on a great wave of physical discovery; we are dazzled, for the moment, by the brilliancy of the results which modern methods of physical research have reached, yet the time can never come when moral and spiritual problems will not assert their rightful supremacy, and when, in our sober moments of reflection, we shall not acknowledge that man's destiny possesses for us a more vital interest than any other question.

Now, contemplating human history as a whole, we are shut up to one of two alternatives. We may look at its successive phases simply as a series of disconnected facts, without order or design, without coherence or connection, without mutual dependence or relation. We may regard the great events of history as following one another in time, with no connection or relation as causes or effects, with no natural, or necessary, or designed antecedence or consequence. According to this theory, we may take any single event, or any given series of events, and may suppose that the antecedent course of events may have been wholly different, or even contrary, or we may take any event, or series of events, and suppose that the consequences may have been wholly different or contrary. Thus we may suppose that our recent civil war may have broken out precisely as it did, even had slavery never existed on this continent, and had these States never been combined in a federal Union; or that the American Revolution may have pursued the precise course it did, and yet the great republic of the New World never

have been called into existence. For, according to this view, all events are disconnected and independent, and one series of events has no causal relation to another. A theory so directly in the face of the manifest course of history might seem too absurd to be seriously maintained, yet it has found, at times, its theoretical defenders, and is practically maintained in some current maxims and recognized practices of society. And, at first sight, it must be admitted that some facts go to establish it. As in nature, so in human life there are many phenomena which refuse to be brought under any established theory; and the story of man is the story of so much suffering, so much crime, so much bloodshed, so much oppression of the weak by the strong, so much triumph of evil over good, of so much disappointment of cherished hopes, and so much failure to realize lofty ideals, that in hours of disappointment and despondency and sorrow it is not strange that even earnest souls have harbored the harrowing suspicion that while law rules the physical world, only disorder and anarchy and blind chance control the movements of that higher sphere where man is left as a free agent to shape his own course.

But, if we refuse to rest in this comfortless conclusion, there is but one alternative remaining, and that is to accept the view already stated, that law pervades the spiritual as it pervades the natural world. One of these two conclusions we must adopt if we reflect upon human history and human destiny at all. In accepting the alternative, we are not required to define the precise sense in which we use the term law, we only assert it as the denial of anarchy and disorder. The choice is between chance

or law; how we are to interpret law is a question to be considered later. Law is simply the contradiction of chance; it denies what the theory of chance affirms, — incoherence and disorder in the sequence of events; and it affirms what the theory of chance denies, — coherence and order in the sequence of events. If, therefore, we accept this theory of human history, events will be no longer viewed as disconnected and discontinuous, but as intimately related to each other, as inseparably interwoven, and as mutually dependent. It regards the successive phases of human history, like the successive phases of individual life, as issuing one from another, and as standing in the relation of cause and effect.

And, however in moments of despondency we may be inclined to view the course of human history as an unmeaning and aimless struggle of conflicting forces, when we calmly review its successive phases in the light of sober reason we cannot content ourselves with anything short of this second view. We are forced to regard the events of history in the relation of cause and effect. And, if the study of history has made any progress in modern times, it has been precisely in the direction of viewing history as a connected whole, where the phenomena of one epoch find their rational explanation in the phenomena of a preceding. We instinctively take this view. In our habitual speech we talk of the growth of institutions and of nations. He would, indeed, only expose himself to contempt and ridicule who should adopt any other language. We look upon the English constitution as having its roots far back in feudal society; we account for the atrocities of the Reign of Terror from the shameless immorality and unbe-

lief of the old régime. Thus we recognize the principle that the course of history is not swayed by chance, but that each age is what it is because of the ages that have gone before it.

The principal objection to this view of history springs from its supposed antagonism to the freedom of the human will. Those who deny that the course of human history and the successive phases of human society show any regular sequence and any trace of a pervading law, do so, for the most part, on the ground that such a theory would inevitably degrade human action to the level of mere physical causation. Thus, for example, Goldwin Smith, in combating the idea that any scientific method can be applied to history, asserts that it would make man a beast or a blade of grass, that it establishes a contradiction between our outward observation and our inner consciousness, and makes us render up our personality, and become a mere link in a chain of causation, a mere grain in a mass of being. If history is governed by fixed laws, conscience becomes an illusion, and any rule of right action is rendered, in the nature of the case, impossible. Such an objection, if well grounded, is a most formidable one, and if consequences like these inevitably follow, it is not strange that so many have revolted from the notion that there is a necessary sequence in human events.

But no one will question for a moment that individual character is a growth, and that from infancy and youth to mature years there is in each one of us a continuous process of development, where each stage is the result of preceding stages, and where the whole conforms to a uniform and regular order. All

our systems of education are based upon this principle. Yet, in thus developing according to a law of growth, we do not suppose that the will is fettered, or that personality suffers any invasion of its rights. I do not design here to enter into any discussion of the old problem, in what the freedom of the will consists; all that I wish to assert is, that whatever view we may take of the freedom of the human will, we do not view it as inconsistent with a development of the individual such as is seen to be in accordance with uniform laws. And, when we turn from the individual to the larger man which we term society, there is no more reason to suppose that there is any necessary conflict. In other words, if we admit a sequence in the individual there is no reason for denying it in the race. If the freedom of the will is reconcilable with the one hypothesis, it must be reconcilable with the other also.

But, in fact, the freedom of the will is a purely metaphysical problem with which the student of history, as such, has nothing to do. His concern, as I have said before, is simply with the facts that history presents. If these facts, viewed on a large scale, are seen to be connected, if they manifestly follow a certain order, if they are shown, beyond doubt, to be connected as cause and effect, as antecedent and consequent, the student of history has no right to ignore, or to set aside, such phenomena simply for the reason that he cannot reconcile them with his theory of human freedom. He is bound to reason from the facts as they are, not from the facts as he would like to find them. And if he holds fast to the testimony of his own consciousness that he is a free and responsible agent, he is bound to believe that

this is not irreconcilable with regular development of historical events, even though he does not see how such reconciliation can be effected. But the immediate question is simply one of fact, and this question must be answered, not by analyzing consciousness, but by searching the broad page of history itself. Here we must look for the proof that human affairs conform to law.

We may dismiss, then, without hesitation, as inconclusive and irrelevant, any objection to the doctrine that law pervades and controls the development of human society that is derived from the supposed conflict of such a theory with human freedom. And not only may we take this negative ground, but we may go further and assert without hesitation, that as human character cannot be conceived of apart from the shaping influence of law, so human society cannot be conceived of if law, in the same way, does not enter into it. For, as we have seen, there are but two alternatives, chance or law; no third hypothesis is possible. So that, unless we are prepared to admit that all the marvelous growth of human civilization is the product of blind chance, the actual result being simply one out of countless myriads of possible results that might have come to pass but did not, we must adopt the only other hypothesis, that the course of human society, from the beginning, has been shaped by some guiding principle, and that even into those phenomena which seem most wayward and anomalous, the causes of which elude our closest scrutiny, law has also entered.

The question, then, whether the phenomena of society, considered on a large scale, indicate a presence and operation of law analogous to that wit-

nessed in the physical universe, is a question of fact, to be determined simply by an investigation of the phenomena themselves. And here it is needless to remark that, in entering upon such an investigation, we must be prepared to encounter difficulties far more formidable than any which we encounter in the study of mere physical phenomena. We not only have presented a different class of facts, but facts which submit themselves far less readily to analysis and comparison. The facts comprised in this survey are all the facts which relate to man as a spiritual being. While in one sense, as facts of consciousness, they lie before each one of us, in another sense, as a series of historical phenomena, they lie far removed from us, and cannot be accurately ascertained. It is only, in fact, when we regard them in their broadest aspects, and in their most general relations and tendencies, that we can reason about them with entire confidence. It is only to the larger phases and aspects which humanity presents that we can make our appeal.

Astronomy was the earliest science to become established, and for the simple reason that astronomy dealt with phenomena about which there could be no dispute, and which were perpetually recurring. The speech which one night uttered was repeated by the next. The observer who was in doubt respecting the movements of one of the heavenly bodies, had but to turn again his optic glass to the same quarter, and he saw the same movement a second time. So in physical investigation, if there is any doubt respecting the result of an experiment, the same experiment can be repeated. The chemist has on his table all the conditions of his search. But in the

evolution of society, neither do the phenomena recur, nor can they be repeated at the will of the observer. There is an endless succession of phenomena, a stream of causes and effects, in whose restless tide the observer himself is borne along. It is therefore obvious that we cannot speak of the laws of history in the same precise sense in which we speak of mathematical or physical laws. What we mean by social or historical laws are simply certain tendencies seen when we view the events of history on a larg scale and for long successive periods.

A favor te argument with those who reject the doctrine that the movements of human society reveal the presence of general laws, is based on the objection that the so-called science of history has shown itself thus far unable to predict the course of events. The astronomer, we are told, can predict an eclipse; if the study of history is capable of being reduced to scientific method, let the student of history predict a revolution. Mr. Froude and Prof. Goldwin Smith have both urged this objection as a conclusive settlement of the dispute. Can you imagine a science, asks the former, which could have foretold such movements as Mohammedanism or Buddhism?[1] "Prediction," says the latter, "the crown of all science, the new science of man and history has not yet ventured to put on. That prerogative, which is the test of her legitimacy, she has not yet ventured to exert."[2] But in the objection here urged, there is a singular confusion of ideas. In what sense is prediction the crown of science? The title of science will hardly be refused to geometry,

[1] [*Short Studies on Great Subjects* (The Science of History), p. 20.]
[2] [*Lectures on the Study of History* (New York: 1866), p. 56.]

yet in what sense does geometry predict? Geology is reckoned among the sciences; but does geology undertake to show what changes will be witnessed hereafter in the structure of the earth? And even of astronomy, it is evident that prediction can be affirmed only in a very limited and partial sense, Strictly speaking, the astronomer predicts nothing; he only conditionally affirms that, if the conditions of the physical universe continue to be, at some future time, precisely what they are to-day, certain results will follow. Thus he is able to say that, if the solar system remains precisely as it now is, a transit of Venus will take place a thousand years from now; but whether the solar system will remain the same he has no means of knowing. We only know that our whole solar system is rushing with inconceivable rapidity through space; what danger may await it as it approaches other constellations the wisest astronomer will not venture to affirm. When we turn to a science like biology, the range of prevision is very small indeed. He would be a bold physician who would undertake to tell the day and hour when any one of us is destined to shuffle off his mortal coil; yet we do not doubt that physiology is a science, that the modifications in our physical frames are governed by fixed laws, and that the causes are now in operation destined, sooner or later, to bring about the death of every one of us. So little is prediction the crown of science!

All that can be fairly claimed for a science of history, or of human society, is that the phenomena of history undeniably exhibit certain tendencies; that these tendencies are uniform and point to a definite result, and that this can be rationally accounted for

only on the hypothesis that certain fixed and uniform principles pervade and control the entire process. Beyond this we cannot go. The pretentious claims that have been put forward in certain quarters, the crude generalizations that have been set up as ascertained laws, the audacious assertion that the course of human events can be dissected and analyzed and set forth in its necessary relations with the precision and certainty with which we determine the movements of the heavenly bodies, or ascertain the affinities of chemical elements, or trace the complex phenomena of organic life, have served only to bring the most elevated and inspiring of all studies into the contempt of sober and cautious thinkers; and no one has contributed more to this unfortunate result than a writer with whom the scientific study of history has been in our own time especially identified, the late Henry Thomas Buckle.

The simple question that we have to consider is whether the history of the race, surveyed from its beginning, shows a consecutive and onward movement from one condition to another. In other words, has there been any such thing as progress in human history. Such an inquiry would seem to be one that answers itself. How can we, it may be asked, for a moment question that such is the fact. How can we give the most cursory glance at human history, and doubt that advancement has been its constant and unmistakable characteristic? The problem is, however, less simple than at first sight may appear. When we note, not simply the more favored races, but the whole human family, not progress, but stagnation, or even decline, seems to be the rule. We see more signs of decay and of

death than of life. Social and intellectual movement seems effectually checked. Sir Henry Maine asserts that the communities that have attained a conspicuous degree of civilization are, after all, but the minority of mankind. And when we survey the whole course of history, we are struck with the fact that certain memorable epochs were epochs of undeniable decline.

When, therefore, we assert progress as the law of human society, it is obvious that this cannot be asserted as a universal and constant characteristic. Neither is progress characteristic of any one state of society, considered as a whole, nor is it the uniform characteristic of each successive state. By the side of progressive nations are seen nations whose social state is stagnant, and between epochs of onward movement come epochs of decline. By some of the earliest in modern times who maintained man's progressive nature, progress was asserted as something necessary and universal, as an occult tendency in society, always and everywhere manifesting its presence. A more comprehensive study of the history of the race has modified this view. Man is no longer contemplated as moving towards perfection in accordance with a uniform and universal law, as in the dreams of some of the social reformers of the last century. All that is claimed is that, on the whole, there is a progress from worse to better, and that, in the long run, the history of the race affords indubitable proof that man has advanced, and that this progress is the prominent feature, if not of the most numerous, yet of the most conspicuous races of men.

In ascertaining, therefore, the fact of progress, it

is not necessary to prove that progress has been the characteristic of all races, or of all ages. Yet it seems evident that these states of society which now appear most fixed, where all onward movement has been completely arrested, must at some time have been progressive, simply to have reached the present state. Hence the characteristic in which they are now most conspicuously deficient they must have unmistakably exhibited at some earlier stage of their existence. And so, too, epochs of decline may be conditions of new epochs of progress; the receding wave only adding to the force and volume of the next rush of waters. The fall of the Western Empire paved the way for the new and more vigorous civilization of the Middle Age, and the corruptions of Latin Christianity furnished a most powerful stimulus to the reform of the sixteenth century. So that when we look at the history of the race as a whole, when we study its successive epochs in their relation one to another, we shall find little difficulty in assenting to the proposition that progress has been the characteristic of human society.

To furnish a proof of this broad proposition, even in its merest outline, would carry me far beyond the limits of the present discussion. The proof is the whole history of man, viewed in every line of his social, his political, or his intellectual life. And not simply that brief portion of his career covered by written records, or traditions preserved in literature, but all that has been recovered of his primeval story by comparison of languages, and by the laborious accumulation of the rude memorials that he has left behind of his early presence on our earth.

From all this vast array of facts but one conclusion can be derived, and that is that the human race has reached its present high stage of civilization by a slow and gradual process, a process not, indeed, always uniform, nor always constant, but yet so marked and evident in its results as to constitute the great and decisive fact in human history. It is, indeed, as a great writer, the late M. Guizot, has truly said, what we mean by civilization. We cannot disconnect the term from the idea of progress, either in the individual or in society. Nor is there any accounting for man's present state, save on this hypothesis.

In thus asserting the fact of progress it is not necessary for us to commit ourselves to any of the explanations of it that have been attempted. How much of truth there may be in any of these theories is a question that should be kept distinct from the main question that we are now considering. We may dismiss without hesitation the theories of Vico and Comte and Buckle, but that will not affect, in the least, the great fact with which we are dealing. It may be that the ultimate law of human progress lies wholly beyond our reach, but this need not weaken our conviction that there is a law. True, as has been claimed, history is a process, a drama but partially unfolded, whose conclusion we cannot even guess, a perpetually flowing stream; yet as we gaze at an unfinished sketch, we may be convinced that every stroke of the pencil had a purpose, though we cannot guess what was the perfect picture which the artist was aiming to represent; and as we stand by the bank of a broad river we may see that its current is steadily moving in one direction, though we

know not where are the mountain rills that feed it, or where, at last, it loses itself in the far-sounding sea.

But the question still remains to be considered with which our present argument is directly concerned, that is, whether this progress of society involves a moral progress. One does not seem of necessity involved in the other, and the admission of one does not carry with it, of course, the admission of the other. The fact of a physical, a social, and an intellectual progress is conceded by some who deny that the history of the race furnishes evidence of any moral progress. This, to go no farther, was the view so strongly maintained by the late Mr. Buckle. No one in our time has laid down so broadly the doctrine that the evolution of society is subject to laws, but these laws, he maintains, are purely intellectual, and these intellectual forces are the only motive power in the onward movement of society. Moral truths are stationary, only intellectual truths are progressive. And hence, as an element in civilization, he argues the superiority of intellectual acquisitions over moral feeling, and claims that the development of humane sentiments in modern times is due, not to any elevation of moral tone, but to increased intelligence. According to this view, human progress affords no evidence of moral growth.

Though Mr. Buckle has, perhaps, pushed this view further than any other, he by no means stands alone in it. Sir James Mackintosh went almost as far. "Morality," he says, "admits of no discoveries. More than three thousand years have elapsed since the composition of the Pentateuch; and let any man,

if he is able, tell me in what important respect the rule of life has varied since that distant period. The fact is evident that no improvement has been made in practical morality. From the countless variety of the facts with which the physical and speculative sciences are conversant, it is impossible to prescribe any bounds to their future improvement. It is otherwise with morals. They have hitherto been stationary, and, in my opinion, they are likely forever to continue so."[1] And Lord Macaulay only echoed these sentiments of Sir James Mackintosh in the well-known essay upon the Church of Rome, in which he sought to account for the fact that since the Reformation the relative strength of Romanism and Protestantism has remained essentially the same. In a brilliant passage he essays to prove the proposition that, with regard to the great problems of man's spiritual nature, a highly educated European, without revelation, is no more likely to be in the right than a Blackfoot Indian.[2]

I have no hesitation in dismissing this as a most superficial and erroneous view of human progress, and a view directly contradicted by some of the best authenticated facts of history. As it is a most narrow theory that would interpret all the most important social phenomena as due solely or chiefly to physical causes, such as climate, race, soil, so is it an equally narrow theory that would recognize in these phenomena only an intellectual factor. Civilization is a slow and complex process, a process involving not only physical, but mental and moral elements,

[1] [*Life of Mackintosh*, by his Son, vol. i., p. 120.]

[2] [Review of Ranke's *History of the Popes; Works*, Am. ed., vol. iv., p. 303.]

and in the progress of rational beings, these latter are by far the most considerable. Mr. Buckle would account for the change from the wandering Arab of the desert — homeless and uninstructed — to the cultivated race which has left the memorials of its taste and intelligence in the structures of Delhi and Granada, simply from the fact that they had changed from a sandy and barren soil to fertile tracts, wholly forgetting that what prompted to this change, and launched the Arab race on this new course, was the prodigious spiritual revolution effected in their ideas of life and duty by the teachings of their great prophet.

Would even Lord Macaulay, with all his love of paradox, venture to assert that, in the general range of their moral ideas, the Eskimo and the European are on a level? that the principles which regulate family life and social and political duty, are not more advanced in England, to-day, than on the day when Hengist and Horsa landed. And if it be replied, that what Sir James Mackintosh and Lord Macaulay had in mind were simply those speculative problems respecting which unaided reason has been so little able to reach a satisfactory answer, and not the practical conceptions of moral duty, the further question arises, whether the two can be divided, and whether the practical conclusions, which men reach at any time, are not shaped by their speculative views. The physical, the intellectual, and the moral elements in civilization are in fact always connected, and what affects the one, sooner or later, affects the other also. A mechanical invention, as the steam-engine or the telegraph, may indirectly, but powerfully, affect the moral relations of a community, and

the practical convictions of duty which sway a people, or an age, always have their roots, more or less distinctly recognized, in speculative opinion.

Here, again, let us remember that the question is simply one of fact, to be determined by an investigation of phenomena. Looking at the history of the race in its broadest aspects, contrasting its most widely separated periods, placing side by side the controlling opinions and convictions of the most primitive and rudest and of the latest and most civilized races, have we any evidence afforded that the general moral level has been raised? The question at first sight is intricate, but yet not really so difficult as it would seem. For the great facts in the history of the race are always the most manifest facts. We may dispute without arriving at any satisfactory result, about the character of an individual, or the value of a dynasty. Opinions are still divided respecting Hildebrand, and Henry VIII., and Mary Stuart. But the grand lineaments and characteristics of an epoch, or of a man, are set forth in such a variety of ways, and perpetuated in so many undesigned memorials and authentic monuments, that we can be rarely in doubt respecting them. And the moral characteristics, especially of a people or an age, are illustrated in such a variety of ways that there can be little dispute about them.

Let us take, for example, two such significant epochs as those illustrated respectively in the Trojan war and the Crusades. Both were European enterprises, undertaken against Asia, and both, in their general tenor and characteristics, have been faithfully mirrored in literature. For whatever may be our theory respecting the origin of the Homeric poems,

whether we see in them the impress of one mind, or view them as a collection of ballads, sung originally by different bards, we cannot doubt that they faithfully picture the heroic age. They are in all respects as authentic memorials of that early civilization, as the chronicles of the Crusades, of Villehardouin and Joinville, are memorials of mediæval life. At first sight those widely separated periods seem equally periods of war and carnage, periods of the exhibition of the cruel traits of human nature; but only a superficial examination is needed to reveal the essential contrast between the two, to show us how beneath the rudeness and ferocity of mediæval war lurked the germs of the finer sentiments that distinguish modern society; how chivalry was there, with its regard for the weak; how the spirit of brotherhood was there, destined at length to break down the odious barriers of class.

The broad question as to the reality of a moral progress of humanity may be best answered by selecting some single conspicuous illustrations. Here, as before, when speaking of intellectual progress, let us bear in mind that the movement for which we contend has been by no means universal, and has been often intermitted, and has its periods of decadence and relapse alternating with those of progress. It is only a progress on the whole that can be shown. But let us glance, for example, at a relation in which the play of moral sentiment is especially conspicuous, — the relation of the family, — and see, if we can, whether the sentiments of civilized, show any advance upon the sentiments of uncivilized races. Take the notion of primitive marriage, which we find so widely diffused; which made the wife the

prize of conquest, or the result of purchase; which placed her completely in the power of her new master, a household drudge, to be used or discarded at his will, and then ask ourselves whether the relation of the sexes, in modern times, does not show an improvement over this, — an improvement not merely in physical condition, but in the whole legal and moral status.

Take another great characteristic feature of human society, in its successive stages of development from barbarism to civilization,— the conception of criminal legislation. Note how, in the early ages, crime is always regarded as simply an injury done an individual, to be punished by personal vengeance, or, at most, atoned for by compensation to the injured party, with no attempt to measure the degree of moral culpability, and no recognition of any relation to the public weal; and then contrast with this the criminal legislation of the most civilized societies of modern times; note how crimes are discriminated, how the motives and temptations of the offender are carefully weighed, how his offense is looked at, not as a mere private injury, but as a violation of public order, to be punished, not by the injured party, but by the authorized representative of the whole social body; how, above all, into criminal legislation a wholly new idea has insinuated itself, and punishment has been made a means for the reformation of the offender, and then ask whether, in its long onward march, the moral sentiments of the race have not been modified and expanded.

But the most impressive evidence of the gradual modification of the moral standard of the race will be found in the contrast presented in the interna-

tional relations of races and states. In the earliest periods these will uniformly be found to be hostile. Members of the same tribe were brethren, but members of different tribes were enemies. They had no relations, and could conceive of no relations, but relations of hostility. A state of war was the state of nature. This is the condition, to-day, of all savage tribes. Those who are familiar with the recent volumes of travel in Central Africa will need no description of what this condition is. The first step out of this is where tribes, kindred in blood, or professing the same religion, are banded together. But all outside this charmed circle are still regarded in the light of foes. No leagues made with them are binding; if resident without the confederacy they can acquire no civil rights. These are still limited by blood. The Hellenic states, in the epoch of their palmiest civilization, did not get beyond this line. The terms Greek and barbarian, expressed and perpetuated the profound antithesis that ran through their whole civilization.

First in the beneficent expansion of the Roman code do we come in contact with a wider conception of the relations of races and nations. The universal empire of Rome inevitably prepared the way for this by blending nations and races together, and by compelling the recognition of mutual rights. Roman law, as developed especially by the prætorian edict, is the proud monument of this march of moral ideas. That there was a universal right binding on all nations alike now came to be recognized. And, on this foundation of natural right, the modern science of international law was first erected; and step by step a code of international ethics has been devel-

oped, and a moral sentiment, common to civilized nations, has come into being, and the great truth is recognized, that the nations of the earth are made of one blood and form one common family. But how vast the interval between the relations of savage tribes, which rested only on force and recognized no law but the law of the strongest, and the humane principles which regulate the relations of modern states, which emphasize the peaceful rather than the hostile relations of nations, and which, while permitting war, have still done so much to remove or mitigate its horrors!

These cursory statements are not adduced as proof of the proposition that the history of the race is marked by moral progress, but rather for the purpose of illustrating the kind of proof that might be presented did the limits of our discussion allow. I have selected only a few of the most salient specimens out of many. But enough has been said to show that the doctrine of the moral progress of the race rests upon the same evidence as that of its intellectual progress. The two are but different aspects of the same subject, for in the complex movement of civilization the moral and intellectual factors can no more be separated than in the development of individual character. The most recent school of historical science, in opposition to Comte and Buckle, strongly emphasize the moral element in social progress. According to Mr. Spencer, the essential conditions of development in social progress are the community and its environment. The environment of a community comprises all the circumstances to which the community is in any way obliged to conform its actions, including not only its physical

conditions, such as climate, natural productions, geographical contour, but also the ideas, feelings, customs, and observances of past times, so far as they are preserved by literature, by traditions, and by monuments, as well as contemporary manners and opinions, so far as they are regarded by the community. The environment of a community, therefore, includes spiritual as well as physical factors; and, as civilization advances, the relative importance of the former constantly increases. From age to age, the environment of a community is slowly but incessantly changing, and to these gradual changes the community is continually adapting itself. Thus the entire organized experience of each generation adds an element to the environment of the next generation, so that the circumstances to which each new generation is required to conform are somewhat different from the circumstances to which the generation preceding was required to conform; and thus, by its own spiritual activity, the community is continually modifying its environment. The application of the principle of evolution to social progress, therefore, recognizes civilization as a process in which the whole nature of man is concerned, a process in which the supreme and determining factors are not physical but spiritual, and, therefore, must be regarded as showing a great advance, not only over the view of Mr. Buckle, but over all views which regard the moral conceptions of man as stationary.

The final conclusion to which we are brought in this discussion is, that history, like nature and human life, constitutes a process, the successive parts of which have a certain organic connection with each other; that its successive stages show, both

with regard to its intellectual and its moral features, a tendency which can only be explained from the presence and operation of some controlling principle. There is, on the whole, a movement, and that movement is in the direction of improvement. And, whatever theory we may adopt to account for these phenomena, even though we should adopt to its full extent the theory of social evolution so elaborately marked out by Mr. Spencer, we have still, as in the case of physical evolution, the process itself to account for. For, what we are pleased to term the laws of history, like the laws of nature, are simply abstract statements of a regular recurrence of facts. The efficient cause must lie further back, the mere conception of abstract law does not meet the difficulty. Hence, alike in nature and in history, we are led back to the conception of a supreme controlling will.

But, further, as the supreme fact revealed in history is moral progress, this order of the world, which we have been brought to recognize, must be a moral order, and thus the facts of human history, viewed in their broadest aspect, go directly to confirm the verdict already rendered by human consciousness. In other words, when we sound the depths of our own moral nature, or when we fly abroad on the great stream and tendency of human affairs; when we look at ourselves as individuals, or when we look at the race as a mighty whole, we find the same great truth illustrated, — that we are under a government of moral laws; and we are forced, as an inevitable consequence, to clothe the supreme cause with moral attributes. Thus the twofold argument from external nature and from man is completed. "No

one can intelligently accept this truth without perceiving that it is the key-stone of the great arch of nature and life, of society, of polity, and of history. The phenomena and laws of history can be understood and explained only by the admission of this great central conception of a supreme will embracing, directing, and controlling all things, all beings, and all events, in all space, and in all time." [1]

[1] Adam, *Theories of History*, p. 314.

LECTURE X.

PERSONALITY AND THE INFINITE.

In my argument thus far I have followed strictly an inductive method. My attempt throughout has been to reason from the known to the unknown, from the seen to the unseen, from the undisputed and accepted facts of external nature and consciousness to the principles by which alone they can be explained. We have considered the phenomena presented in the universe around us, and the phenomena attested in human consciousness and in the history of the race, and have confined ourselves to the evident logical inferences which these involved. We found ourselves in the presence of facts, and these facts demanded explanation. We have pushed our conclusions no further than these explanations required. And, if I have not been wholly astray in my reasoning, I have succeeded in showing that the physical universe, as a great fact or result, demands for its explanation a cause; that the various and complicated arrangements of the universe prove this cause to have been intelligent, and that the phenomena of human consciousness and of human history, equally warrant us in ascribing to this cause the attributes of a moral being.

And further, what has been the principal aim of this whole discussion, I have sought to show that these arguments have not been essentially affected

by any of the recent speculations respecting the nature of matter and force, or the process by which the present universe has been evolved out of preceding conditions. We have seen that, whatever theory we may adopt with regard to the method of creation, the problem remains the same, and far back as we may push our researches into the history of the physical universe, the same question confronts us, a question which can neither be answered nor set aside by any conclusions of physical science. Conceding all that is claimed by the most extreme advocates of evolution, and allowing its application, not only in the sphere of physical nature, but in the sphere of intellectual and moral action, it is still, when rightly understood, simply a method, a method implying the existence of suitable agents, requiring constant and new adjustments, leading logically back to an intelligent source, and hence only adding new support to the arguments for a supreme cause, which it was erroneously supposed to contradict.

But if we now pause for a moment and carefully review all that we have thus far sought to establish, it will be seen at once that all this by no means completes the theistic argument. If we stop here we stop very far short of the proposition which we set out to establish. We have, in fact, laboriously climbed up this lofty eminence, only to see more clearly how far above us still rises the summit which we are seeking to scale. For, even should it be conceded that everything claimed in the foregoing discussion has been established, it may still be objected, and objected with reason, that it does not amount to a demonstration of the existence of God,

in the full sense in which that august term is commonly understood. Granted that the existence of a material universe requires us to suppose a cause, granted that to that supreme cause must be attributed the characteristics of intelligence and goodness, granted that the history of the world shows, on the whole, such a tendency as implies a moral government, still, it may be claimed, there is nothing in all this that proves this first cause to be infinite, eternal, and absolute in being and perfection; yet without this we do not reach the idea of God.

All our reasoning thus far has been from finite phenomena, and when from the finite we argue to the infinite, we take a great leap, for which we can plead no logical justification. Our whole argument has professed to rest on a basis of facts, and we have no right to push our inferences a step beyond the line which our facts mark out. The moment we pass this line we leave the solid ground of proof, and embark on the uncertain flood of fancy. Whatever of force there may be in the argument for a cause, still, it is claimed, this argument cannot lift us above the region of the contingent and the finite. All that we know of the connection of cause and effect comes from our observation of phenomena within this sphere. And admitting the validity of the argument of design, it is still an argument from finite designs, and from an indefinite number of finite designs we cannot infer an infinite designer. At best, we can only reach back to the idea of a grand artificer. The only valid inference, it is urged, from the phenomena of design would be that of a phenomenal first cause. The evidences of design do not warrant the inference of a being detached from, and independent of, these designs.

The difficulty that here presents itself seems, indeed, so insurmountable, the flaw in the argument at this point appears so fatal, and all that has been established falls so far short of the conclusion which alone can satisfy the reason, that not a few of the most devout and earnest advocates of theism have been moved to cast aside all inductive and *a posteriori* arguments, and to solve the problem in a more direct and summary method. Belief in the existence of God, it is claimed by those who adopt this method of reasoning, is a primary instinct of the soul which we can neither justify nor go behind. The idea of God exists in the mind as one of its ultimate and ineradicable notions. Those who take this view do not deny that from finite sequences we may reason back to a first cause, but they deny that this first cause can be identified with a personal God. They do not, in the least, deny the proofs of design in nature, but they claim that these proofs of design have no theistic value until we have been first led to recognize the existence of a supreme mind in nature upon wholly different and independent grounds. The book of nature becomes illumined and radiant only to one who already believes in God.

It is not claimed by those who urge this argument from intuition that all men are equally endowed with this faculty of immediately apprehending divine things. On the contrary, the instinct in the soul to which this appeal is made, when it first appears is crude, dim, and inarticulate. It is gradually shaped into greater clearness by the myriad influences of education and tradition. It is therefore no evidence against the reality or the trust-

worthiness of this intuition that its manifestations are not uniform in different periods; that it even seems absent in some states of human consciousness, or in certain grades of civilization. At times it may seem wholly to slumber, not only in individuals, but in a race or an era. But still it exists, and however crude in its elementary forms, always manifests itself in its highest state as an act of intelligence and faith, as a direct gaze with the inner eye into the regions of spirit. While the God of the logical understanding is a mere projected shadow of the mind itself, and while the argument of design is simply finite man drawing his own portrait upon the canvas of infinity, to the eye of intuition is directly revealed the presence, behind phenomena, of a great and transcendent reality.

It will be observed that the intuition of the existence of God, which is here asserted, is direct and immediate. It is not the product of knowledge or reflection; it does not come as the close, or completion, of a process of rational investigation, but is the spontaneous impulse of the soul in presence of the object whose existence it attests. As such it is, of necessity, prior to any act of reflection. It cannot be regarded as, in any sense, the product of experience. The main characteristic of this intuition is that it proclaims a supreme existence without and beyond the mind, which it apprehends in the act of revealing itself. Yet it is not without certain criterions of its trustworthiness. These are the persistence with which this intuition appears and reappears, the obstinacy with which it reasserts itself, and the tenacity with which it clings to us; and further, its historical permanence, the confirmation

which it receives from ages and generations; and lastly, the inner harmony between this intuitive belief and the whole realm of man's psychological nature. An intuition which has raised and elevated man, and led him to walk in increasing light, has the most convincing evidence of trustworthiness.

This short and easy method of settling the vexed problem of the divine existence would be satisfactory if the existence of such universal and intuitive belief in God could be established. But if we are so made that we have a direct and immediate intuition of the existence of a supreme being, an intuition independent of all external evidence, a direct revelation to the soul, we may well inquire why has the question of the divine existence given rise to so much discussion. If the idea of God is a first principle, lying behind the earliest conscious exercise of reflection, recognized as part of the primary conceptions which the mind forms, a spontaneous conviction needing no proof, waiting for no evidence, why should it have been so often called in question? The assertion that man knows God by immediate intuition is, in fact, mere dogmatism. Those who profess to hold this theory so explain it, in many cases, as to show that they hold nothing of the kind. All that is found to be innate is a sense of dependence upon a higher power. None, in fact, but the most extreme school of mystics have consistently claimed an intuition of God independent of the ordinary laws of cognition.

Such of you as have carefully followed the course of my argument up to this point will not need to be reminded that I have sedulously avoided drawing the illogical inference to which those who advocate

the theory of direct intuition so justly object. I have nowhere sought to make this leap from the finite to the infinite which is so strongly denounced. I have, throughout, restrained myself from urging these proofs from external nature, from human consciousness, or from history, as affording any complete and final demonstration of the divine existence and attributes. I have only presented them as the preliminary steps towards such a conclusion, and though I earnestly maintain that all of them, when taken together, constitute a perfectly convincing argument, up to a certain point, yet I have nowhere asserted, or implied, that they yield the final result for which we have all along been seeking. Our work up to this stage has been preparatory; we have been laying the foundations of a structure which yet remains to be finished; we have laboriously reared an arch, symmetrical and perfect indeed, but which will only fall to the ground unless the key-stone be fitted in.

But, because all the arguments based on induction are confessedly incomplete, they should not be rejected as illusory or worthless. Because they do not yield us the full proof that we want, we need not dismiss them as futile attempts to scale an inaccessible height. Though insufficient, they yet serve a most important purpose. They are the preliminary conditions of the final step by which the argument for the existence of God is completed. It cannot be questioned that the human mind conceives of the Supreme Being as absolute, as infinite, as eternal, as perfect; and that it can never rest satisfied with a conception of deity that stops short of this. Neither the intellect, nor the heart, will accept the thought that the being whom they adore as God is

dependent on any antecedent or on any higher being, that he is limited in his existence either in time or space, or that he is lacking in any conceivable perfection. The problem, then, now before us is to connect our conclusions thus far with this conception of infinite and absolute being, to show that these attributes must be the attributes of the intelligent and righteous author of all things, whose existence the frame of nature and the constitution of man alike attest.

To solve the problem here presented we shall be obliged to turn our attention to a region which we have not yet explored, and glance more closely than we have yet done at our own mental processes. We have thus far studied only the broad facts presented in human consciousness, we have not investigated the laws to which those phenomena are due. We have traced the operations of mind up to a certain point, but we have not yet asked how it reaches its supreme conclusions. In proceeding to make this further inquiry we not only do not need to cast aside, as worthless, the results which we have already reached, but we do not even need to abandon the sober and safe method of inquiry which we have thus far followed. We are still dealing with facts, and, in any conclusions that we may reach, still adhere to our inductive reasoning. Only, in the results which we now reach, we shall discover that, in all our reasoning, there are certain fundamental truths involved which induction does not give us, truths which we do not become possessed of by any logical process, but truths which are the original and fundamental conditions of thought itself.

According to one school of thinkers, a school very

widely represented at the present day, the mind derives all its knowledge, its maxims, and its principles, solely from observation and experience. In its modern form this doctrine dates from Locke, who in laboring to prove that the mind possessed no idea prior to experience, confounded the cause with the occasion of ideas, and held that the mind, before it received impressions through the senses, was a blank sheet, on which the record of experience was yet to be written. Thus all ideas were traced to a purely empirical source. Another school, which recognizes Leibnitz as its great leader, held that the mind is by nature endowed with certain aptitudes, dispositions, or faculties, by which it is put in immediate possession of necessary and absolute truths. Because of a natural tendency the mind tends to grasp these truths. As present in the mind, before all experience, these ideas may be termed innate. Carried to an extreme by Kant, these inner aptitudes became laws of thought, essential conditions of all intellectual acts, having validity for the mind itself, but for which no reality can be claimed when applied to the external world.

What is the element of truth in this famous controversy? Abandoning without hesitation the claim set up by the transcendental school, that the reason gazes directly at the universal, eternal, and absolute, that it lives in immediate communion with the true, the beautiful, and the good, that without help, without external stimulus, without an intellectual process of any kind, it soars directly to this lofty sphere, let us ask whether between these two extremes of sensationalism and transcendentalism there may not be a middle ground. This controversy, like most con-

troversies, has been complicated by the varying senses in which the terms used have been employed. Intuition is a word which modern science has been eager to banish from its vocabulary, and the mere mention of it may call forth a sneer from those who pride themselves upon a rigid adherence to the methods of modern science. Mr. Spencer, while departing in many respects from the maxims of the sensational school, still maintains that all our generalized notions have become forms of thought simply from the fact that they have arisen from the organized and consolidated experiences of countless former generations.

Is the mind, then, let us ask, endowed with any truth or principles, the recognition of which may be fairly termed intuition? The question is one to be answered by an examination of our mental processes. What is the answer that consciousness gives us to this inquiry? At the outset we may concede without hesitation, that the mind is not possessed of innate ideas, in the sense in which that term is commonly understood. In his argument against this view, Locke, it must be granted, gained the victory, though whether the doctrine of innate ideas was ever really maintained in the sense in which he denied it, may be questioned. We may also concede that the soul, at the outset of its conscious existence, is not endowed with abstract notions of any kind. For all abstract notions, as, for example, the notions of substance or space, are the result of a mental process by which we separate the part from the whole, the quality from the substance to which it belongs. In the act of knowing the mind always starts with the singular and the concrete, and all our

general notions are the result of an operation by which we contemplate a number of separate objects as possessed of common attributes.

Thus it must be granted, that however inaccurate many of Locke's statements, he was undoubtedly right in holding so strongly as he did that in the formation of our general ideas an element of previous experience was always called into play. But this experience was not a cause, it was simply a condition. It was not the primal source and fountain-head of thought, but simply determined the channel down which the stream of thought should flow. In this process the mind was not passive, like a sheet of paper, simply receiving and preserving the record of experience, but had a capacity of reacting upon the impressions of the senses. It was endowed with an originating potency; and this potency of mind, like the potencies of matter, was not lawless and capricious in its action, but was subject to certain laws and was controlled in its operation by fixed methods. And further, by careful observation and analysis, these laws can be arrived at, precisely as we arrive at the laws of the external world. By the operation of these laws the mind rises to the perception of absolute and necessary truth. They are a part of the mind; their presence and control are attested as clearly as the laws of the physical universe.

Even that very experience on which so much stress is laid, and which is, as we have seen, the essential condition of all our knowing, would avail us nothing but for this reaction of the mind upon the phenomena which experience makes known to us. Experience would, in fact, be nothing but a series of

sensations or impressions, but for this generalizing faculty which coördinates the facts of experience, and enables us to contemplate them in a logical relation. To learn aright the very lessons of experience, we need then, in the mind, something which experience cannot furnish. In this lies the essential distinction between the experience of man and the experience of the lower animals. They are endowed, in many cases, with keener perceptions than ours. Their experience, in many directions, must be far more acute. But there is, in them, no such power of reaction upon experience as we see in man. The vast fabric of human knowledge has been built up in this way. All the inductive sciences are rested upon this foundation. They imply and recognize principles not derived from experience. Astronomy rests on first truths respecting space and number and time; and physical science on first truths respecting force and matter.

Thus all our reasoning proceeds on principles which cannot be found by reasoning, but must be assumed as intuitive truths. We cannot construct the simplest argument, we cannot convict an opponent of error, we cannot justify to ourselves, even, the maxims which we hold to be true, without recognizing mental principles which are either accepted as intuitive, or which lead us directly back to principles which are. The primary convictions of the mind are all of the nature of intuitions. These may arise either in connection with some external object, or in connection with some internal sentiment. Thus, when I see this desk before me, I intuitively recognize it as occupying space, though of space itself I neither have had nor can have any actual

experience. So a succession of events awakens the intuition of time, though time, like space, can be revealed to me by no positive apprehension. Let us notice, however, that these intuitions, though not derived from experience, are yet never called into existence without the help of experience. In other words, an intuition is not gazing at the absolute, but is always the perception of an object, or of something connected with an object. Hence we are never directly conscious of the true, the beautiful, and the good, simply as such, but just as after contemplating a body that occupies space, we get the abstract idea of space, so after contemplating actions as good or evil, we get the notion of abstract moral qualities. These intuitive convictions can be generalized, and when generalized we are compelled to regard them as necessary truths. For the laws of mental action are analogous to the laws which regulate external nature. Like the physiological processes of the body, these intuitions depend on no action of the will; on the contrary, they are often in most perfect action when we are most unconscious of their presence. Yet, while analogous in their operation to the laws which we trace in external nature, they are of a higher order than any generalizations from mere external or physical facts. For they carry, in their very nature, a character of necessity or universality, and hence in an especial sense may claim to be regarded as first principles. They are truths pertaining to our original constitution, and are the grounds of all knowledge. And while the study of them is more difficult and more delicate than the investigation of ordinary truth, this need not weaken our conviction of their reality, or cause our confidence to waver in our methods of establishing them.

Let it be borne in mind that in all this we are not claiming any such transcendent and complete knowledge as carries with it an irrefragible assurance, nor supposing any such faculty of intuition as gives us direct cognizance of real existence. The only knowledge possible to beings constituted as we are is knowledge of the phenomena of consciousness, and the inferences which we draw from them. These necessary inferences from the phenomena of consciousness are sometimes called intuitions and sometimes primitive beliefs. Sir William Hamilton employs the latter term. He says, "Our knowledge rests ultimately on certain facts of consciousness, which as primitive, and consequently incomprehensible, are given less in the form of cognitions than of beliefs. But if consciousness in its last analysis, — in other words, if our primary experience be a faith, the reality of our knowledge turns on the veracity of our constitutive beliefs. As ultimate the quality of these beliefs cannot be inferred; their truth, however, is in the first instance to be presumed." The particular name by which we describe them is, however, not a matter of importance. The essential thing is to recognize the fact that, without certain inferences transcending phenomena, which the mind draws, we cannot conceive the external world, or make a distinction between the present and the past.

And further, as we are simply dealing here with facts of consciousness, it does not matter what theory we adopt to account for these facts. As these intuitions present themselves to us, they appear in a completed state, and they have doubtless borne that character as long as we have known anything

about them. But it seems probable that we inherit natures which cannot but develop these results as soon as they develop at all. To recognize the fact that the present form of these intuitive convictions has been gradually established, is simply to recognize the fact that the rational history of their production is similar to that which marks a large portion of the universe as known to us. This is the explanation of the origin of our intuitive beliefs given by Mr. Spencer, that they are a habit of mind engendered by the antecedent experience of an indefinite series of ancestors. And for this explanation it is claimed that it completely reconciles the opposing theories of the school of Locke and of Kant. But this explanation of their origin does not, in the least, affect the claim that to the human mind in its present matured and perfected state, they bear the character of immediate and necessary truths. The doctrine of evolution does not detract from, but truly considered, adds to their binding authority.

Among the most evident and undeniable of these primary cognitions, or beliefs, which thus carry with them the characteristic of intuition, must be reckoned our conviction of the infinite. This conviction, like every other intuitive conviction, will be found, on examination, not to exist in the mind as an innate idea, but is always connected with some positive cognition. That is, it does not appear full-blown at the dawn of consciousness, but in all cases arises after the mind has reached, through experience, the perception of certain other truths. It is claimed by some that the finite mind can never have a conception of infinity, and that we only mock ourselves with words and phrases when we

presume to talk about it. But while no one will deny that the human mind can form no conception of infinity, as we picture an object or recall a scene, or construct a mental image, it by no means follows that we can absolutely have no apprehension of the infinite. We constantly apprehend things of which we can distinctly frame no mental image, and while it is perfectly true that we can have no proper or adequate conception of infinity, and not less certain that we can never rise to it by any process of generalization, it does not by any means follow from this that we may not have a real and positive apprehension of it. We can have no conception, either of infinite space or of infinite time, but if we take the wings of morning and fly to the extremest verge of the material universe, we cannot then cast from us the conviction that immeasurable space still stretches beyond our utmost vision, or if we go back in time, through the illimitable periods of geologic or cosmic history, the background of a fathomless eternity still rises up before us. Infinite space and infinite time are necessities of thought. They are conceptions which, indeed, we cannot grasp, but which we are equally unable to cast aside. We are persuaded of them not less irresistibly than we are persuaded of our own existence. We can conceive of neither, but we are equally unable to conceive that both do not exist. While they are inexorable necessities of thought, they are not less supreme characteristics of human intelligence. Sir William Hamilton has represented this notion of infinity as a result of mental impotency. But it is not simply negative. It is in the truest sense a positive conviction, and though any attempt to grasp it

only heightens our own sense of inadequacy, yet the mind is impelled by our active impulses to stretch after what it can never reach.

If it be objected that, in making this inference, we are passing wholly beyond the bounds of knowledge, and the legitimate sphere of the human intellect, I reply, that we are doing so no more than when we arrive at the knowledge of anything outside of our personal consciousness. When the man of science ascribes a real existence to any of the phenomena of external nature about which he reasons, he only infers that such is the fact. Reason compels the belief that the stream of phenomena, of which alone we are directly conscious, is not self-sufficient, but that it involves the existence of something not itself revealed to consciousness, by which these phenomena must be explained. In consciousness we have only the signs of external things. But when science goes beyond this limit, when she concedes, as she does, the real existence of an external world, when she reasons of force and matter as something more than conceptions which the mind has formed, then she recognizes the truth that the mind is compelled to make inferences respecting a sphere into which experience does not reach, and respecting which consciousness has no direct information. The great physical doctrine of the persistence of energy all rests on this admission.

"It is unquestionable, then," says Mr. Herbert, "that the testimony of consciousness to much that lies beyond the present phenomenon is accepted without hesitation, that human life would be at a standstill if credit was not continually given to in-

ferences from the symbols which present themselves in consciousness. To read off the meaning of these symbols is the very function of our intelligence; reason finds its occupation in the interpretation of signs; and that is preëminently its office in the arduous and elaborate investigations of science. To recognize the world as external is to assume a power outside me working effects on me; to affirm that a phenomenon had an antecedent is to accept the testimony of memory to a fact which is incapable of proof. Science, then, transcends phenomena at every step; the whole fabric of human knowledge would collapse, unless the testimony of consciousness were accepted to facts not found among phenomena, but inferred from them. Yet those who are indebted, at every turn, to such inferences, boast of giving recognition to phenomena alone. Nor is it a mere practical, as distinguished from a philosophical recognition, that is given to such inferences, for the entire edifice of their science reposes on them."[1]

Let us now proceed to connect this reasoning with the results of our previous discussion. I have wandered somewhat away from the direct line of my argument for the purpose of making perfectly plain an important principle. The proof that the first cause is the infinite, eternal, and perfect being, has, for the most part, been derived directly from principles and ideas held to be innate. Various methods have been adopted for showing this, but they all agree in attempting to demonstrate the divine existence and attributes by a process of purely deductive reasoning. Thus arguments for the divine exist-

[1] *The Realistic Assumptions of Modern Science Examined*, p. 344.

ence have been deduced from the nature of truth, which implies a being as absolutely true, or from the nature of the human mind, as united, through its universal notions, with the divine mind, or from the nature of knowledge, which is held to be possible only through ideas which have their source in an eternal reason, not derived from the senses but inherent in the divine nature. Anselm held that, from the very idea of God, as the highest being, his necessary existence might be strictly deduced, while Descartes maintained that, in the very consciousness of imperfection and limitation, was involved the idea of an all-perfect and unlimited being. Others have derived so-called demonstrations of the divine existence from the notions of existence and causality. My present argument must not be confounded with any of these. As I do not adopt them, I do not need to explain or defend them. They are all attempts to evolve, by a purely logical process, what is involved in certain primary intuitions, or fundamental conditions of the mind, and it is claimed for them that, unless we fall back upon the skeptical alternative that the consciousness and reason of man cannot be trusted, we must believe in the existence of an eternal, infinite, and unconditional being. But the fatal defect seems to me to lurk in all this reasoning that it proceeds, throughout, on a purely ideal basis; it is reasoning, not respecting the facts of nature, but respecting the conceptions of the human mind. A purely subjective necessity of reasoning is projected outwards, and because logically conclusive, is held to be conclusive in the realm of objective reality. Under every one of its modifications this argument proceeds from the necessary

idea of God to his necessary being; it passes from thought to reality precisely as we pass from premise to conclusion.

But I propose to make no such application of our intuitive beliefs. I am not arguing from our intuition of the infinite to the existence of an infinite being, but having found the existence and attributes of some being by a wholly different method, am now asking whether we are not compelled to connect our intuitions of the infinite with this existing being. It may be thought, by some, that as soon as the idea of the infinite is thus apprehended, the full theistic inference goes with it, and that the inference of the mind to the existence of the Deity is self-evident. But an atheist does not deny infinity as an abstract conception, and few will refuse to recognize the fact that they apprehend immediately certain aspects of infinity. What they refuse to acknowledge is that the apprehension of the infinite implies anything more than the boundlessness of space, the eternity of time, or the self-existence of matter. Something, then, is needed to complete the argument, and to show that there is some being of whom such infinite attributes are predicable. The proof that God is infinite and absolute should, therefore, not precede, but should follow, the proof of the existence of an intelligent and righteous cause. We do not pass by any illicit process from the ideal to the actual, but have reasoned from facts to the existence and attributes of a first cause, before we have undertaken to apply to him our intuitive conceptions. We have shown that the universe must have had an inconceivably powerful and intelligent author, a supreme framer and governor who has adjusted, throughout

its wondrous frame, means to ends with marvelous exactness; who has formed his creatures to recognize a moral law, who has made the course of their history, through the ages, an increasing expression and illustration and demonstration of a moral purpose. We have, further, shown that we are so made, or if another statement of the fact be preferred, have grown so to be, that we have intuitions, which are the very framework of all our thought, of infinity and eternity. When we have reached this point the idea of God spontaneously completes itself. We irresistibly connect these intuitions with the first cause. The author of the universe must be the being of whom these are predicable. When the mind has been brought to admit the existence of a supreme intelligence and will, it will not hesitate to believe that this intelligence and will are also infinite and eternal.

From what has been said the part which intuition holds, in our present argument, has been made sufficiently plain. While we had no hesitation in rejecting intuition as an exclusive and immediate source of our belief in the divine existence, we recognize intuition as essential to the completeness of the theistic argument. We recognize it, not as doing away with the various inductive arguments, based on the constitution of the universe and the nature of man, but as completing those arguments, and carrying them to the final stage, short of which they fail to satisfy the mind. In other words, we regard intuition, not as a distinct and independent faculty of the mind, a faculty transcending all the ordinary and recognized processes of intelligence, but as a part of cognition, as the final and legitimate step to which

the intellectual process leads. And not the completion of one process, but the completion of all, so that the final conviction to which the reason is brought is the central truth towards which all the converging lines of inquiry lead. Hence, by whatever avenue we approach the Deity, whether we view him as first cause or as moral governor, we are brought at last to this conclusion.

The theistic argument is completed at this point. All its threads are gathered up and woven together by this supreme act of the mind. At the outset, we saw that the argument was complex. The proof of the divine existence was drawn from many sources. It was not claimed that any one, taken by itself, yielded a perfectly satisfactory result. The necessity of supposing a first cause was not itself a proof of the divine existence. The evidence of intelligence in nature was not a proof of the divine existence; the traces in history of a moral governor were not proofs of the divine existence. But all these were undeniable facts; they all pointed in the same direction, they all converged to a common centre, they all brought us, at last, face to face with the conviction of a being behind phenomena, transcending existence, endowed with wisdom and goodness beyond anything that the imagination of man could conceive. At this point, and by a strictly legitimate process of intellection, a process implied in all knowledge, and lying at the basis of every science, we clothed this conception with the attributes of infinity, and when this was done, the idea of God was completed.

But at this stage in our argument we encounter a new objection. Granting all that has been claimed,

it may now be urged that it proves too much; that when, by this appeal to intuition, we have succeeded in establishing the existence of an infinite and absolute being, we have at the same time destroyed all the distinctive grounds of religious belief; for this infinite and absolute being must, in the nature of the case, be incomprehensible, and we are only involved in endless and inextricable contradictions if we attribute to it any definite qualities. Above all, it is said, are we debarred by this conclusion from connecting with the infinite and absolute being the idea of personality; for we cannot at the same time think of the Supreme Being as infinite and think of him as personal. The two representations cannot be reconciled, for personality, in its nature, is limitation, and we cannot conceive of personality into which some form of limitation does not enter. We cannot transcend in thought our own personality, and hence to speak of an infinite and absolute person is simply to play with phrases that have no intelligible meaning.

This objection is a metaphysical one, and has been made sufficiently familiar in the writings of Mr. Mansel. It is a repetition of Spinoza's famous maxim, — "Determinatio est negatio," — to define God is to deny him. But it is also the view of Mr. Spencer, in whose system science and metaphysics are continually confounded. While Mr. Spencer asserts the existence of an all-pervading and all-sustaining power, eternally and everywhere manifested in the phenomenal activity of the universe, alike the cause of all and the essence of all, he holds, not less strongly, that this cause and essence are, to us, inscrutable, and that the terms personality and infinity,

especially, express ideas which are mutually incompatible. The most that we can do is to assert the persistence of an unconditioned reality, transcending our knowledge or conception, without beginning or end. The axiomatic truths of physical science unavoidably postulate this absolute Being as their basis; but beyond this we cannot go. As soon as we reason about it we are involved in contradictions. So that the highest attainment of the human mind is to ascertain the laws of phenomena, and then bow down in humble recognition of the infinite unknown.

Mr. Matthew Arnold, with more grace of style if less scientific vigor, has unfolded the same doctrine. Mr. Arnold tells us, with almost wearisome iteration, that we must renounce forever the delusion "that God is a person who thinks and loves." For this conviction, endeared to so many generations of believing souls, we are to substitute the idea of a "stream of tendency by which all things fulfill the law of their being;" not a person who thinks and loves, but a "power that lives and breathes and feels." We are bidden to lift our eyes, not to a righteous ruler of the world, but to "the eternal not-ourselves that makes for righteousness;" or, in other words, to substitute for a personal God a negative entity, of which all that can be with certainty affirmed is, that it is "not we-ourselves," and that it is beyond us and eternal. By what precise process we reach this conclusion is not clearly pointed out. No one, we are told, "has discovered the nature of God to be personal, or is entitled to assert that he has conscious intelligence;" but we are told to look to the "constitution and history of things," where we shall find an

eternal tendency at work, and that this eternal tendency "makes for righteousness." [1]

So far as this definition of Matthew Arnold is an attempt to bring the conclusive evidence of the divine existence within the range of human experience, so that it can be tested and verified, I cordially accept it. It is wholly in the spirit of this discussion, and is an affirmation of one essential part of my argument, — the argument from history. I endeavored to show that the course of history, with whatever exceptions, yet on the whole, undeniably "makes for righteousness." So far, too, as this view is a protest against the common tendency to identify personality in God with personality in man, thus assuming that human nature is an adequate measure or representative of the divine, it may be accepted as working a wholesome reaction. The old Hebrew prophets said as much. But Mr. Arnold evidently means more. His language, though not always clear, must still be taken to imply that human personality not only inadequately represents the divine, but that there is a radical inconsistency, or contradiction, between the two ideas; so that if God be infinite he cannot be a person, and if personal he cannot be infinite. An infinite being must exclude limitation and relation.

The question whether the Supreme Being is personal, or can be interpreted by us in terms in which we interpret our own personality, is a very old one, and it would be idle to disguise the difficulties which surround it. From the universal instinct of the human race to recognize the Supreme Being as personal, the great majority of all forms of false religion

[1] [See Arnold, *Literature and Dogma.*]

have arisen. For the moment the mind proceeds to clothe the Supreme Being with the attribute of personality, the subtle process of anthropomorphizing begins, and, as experience shows, this process carries in its train every form of idol worship, from the loftiest to the most degraded. "The fair humanities of old religion," whose passing away from earth a great modern poet has deplored, and the lowest fetish worship of an African savage, all had their beginning here. It is not surprising that this result should produce with some a deep revulsion of feeling, and that, not in the name of science only, but even in the name of religion, they should feel called upon to utter a protest against what they stigmatize as "anthropomorphic theism," as a mere survival of the primitive fetishistic habit of thought.

Yet anthropomorphism, though evidently capable of being carried to a ruinous extreme, represents a universal tendency, and so, according to the maxim of the evolution school, would seem to have its roots in some great truth. That the human mind has shown this instinctive tendency would seem a fact, of itself, sufficient to suggest the question whether there were not some reality corresponding to this irrepressible instinct. "We must not fall down and worship," we are told, "as the source of our life and virtue, the image which our own minds have set up. Why is such idolatry any better than that of the old wood and stone? If we worship the creations of our minds, why not also those of our hands? The one is, indeed, a more refined self-adoration than the other; but the radical error remains the same in both." Yet, clearly, because we can recognize the Supreme Being as good and wise, it

does not follow that his goodness and his wisdom are simply the creations of our thought; and if we can recognize him as personal, and if we instinctively tend so to do, this of itself would furnish no ground whatever for discrediting the reality of his personality as distinct from our conceptions.

Mr. Spencer concedes, not only that we are compelled to recognize the existence of something behind phenomena, but we are compelled to recognize that something as efficient cause. It is only when we attempt to reason about it that we are involved in contradictions. But, similar contradictions beset us just as much when we attempt to reason about other things. When we analyze the grounds for believing in our own continuous existence, our own personality or freedom, or when we attempt to frame definite conceptions of notions so fundamental as space, time, or motion, we are encompassed with contradictions. There is nothing, whatever, exceptional in our experience when we lift our thoughts to the Supreme Being. And the natural inference is that our conceptions, derived directly or indirectly from phenomena, are not inadequate to represent realities transcending phenomena, which however dimly shadowed forth are yet irresistibly suggested. Absolute knowledge of these realities is confessedly unattainable, yet the conviction of their existence is irresistible; and shall we rest with the blank admission of their existence, or may we proceed to explore, even though imperfectly, their nature?

Surely, if our ignorance of the Supreme Being disqualifies us from affirming or denying anything about him, it disqualifies us from ascribing to him power. How, according to Mr. Spencer's view, we

are "obliged to regard every phenomenon as a manifestation of some power," and yet are debarred from regarding phenomena as manifestations of intelligence, it is not easy to see. Are not power and intelligence equally attributes? Are we not forced to the conviction of the reality of a power by the existence of the universe, and are not the characteristics of the universe as much phenomena demanding explanation as its bare existence? Clearly, to be consistent with himself, Mr. Spencer should dismiss from his system, not only the idea of intelligence, but the idea of power, and even of any reality in the external universe. These attributes are as perplexing and inscrutable as any that the mind can connect with the Supreme Being. Thus, according to this view, the only consistent and logical result that can be reached with regard to this whole subject is, an utter paralysis of thought. We virtually fall back upon the Hegelian conclusion, where pure existence is identified with pure nothing.

All that I claim is that there are many conceptions which the mind is irresistibly prompted to form, which, when logically followed out, are found to involve contradictions. Such are our conceptions of mind and thought, of matter and motion, of time and space. In whatever direction our inquiries move these conceptions quickly land us in contradictions. All these conceptions involve inferences that transcend phenomena, yet they are inferences to which reason, when it investigates phenomena, is inevitably led. What course, now, do we pursue? Do we, on account of these recognized and acknowledged difficulties, dismiss such conceptions from our minds, or doubt their reality? Do we question the

existence of mind or matter, because an ideal or a material conception of the universe cannot be reconciled; do we doubt the reality of time and of space, because the attempt to conceive either involves us in contradiction? Do we not accept these conceptions as necessary, while we recognize them as imperfect? And while we cannot attain absolute knowledge respecting these inferences, do we not yet rest in the firm conviction that, however imperfect, they represent realities?

To describe his distinctive position, Mr. Spencer applies to his system the epithet "Transfigured Realism." By this he affirms the reality of some objective existence, as a necessity of thought, but denies that it is more than an unknown correlative of consciousness. We can say that it is, but cannot say what it is. But either this high-sounding phrase means nothing, or it means much more than Mr. Spencer is willing to admit. If he admits that the mind is competent to recognize anything but mere phenomena, he opens a door which he has no right to close. The question is not, whether we can reason back to the essence of the Supreme Being, — no one claims that; the question is not whether we can fully search out the attributes of the Supreme Being, — no one claims that we have more than a partial knowledge even of the attributes which are revealed; the simple question is, whether, if we are competent to recognize power, which Mr. Spencer admits, we are not competent to recognize other attributes. By Mr. Spencer's own admission, the middle wall of partition between the seen and the unseen is broken down, and the question what we know of the supreme cause becomes a question of degree.

To ascribe personality to the Supreme Being is often spoken of, as it were, in a peculiar way to ascertain his essence, as though, in thus representing him, we claimed, more than in any other way, to know him as he is. But has the attribute of personality any such precedence over other attributes? When we ascribe conscious life to our fellow-men, we do it wholly on the ground that their bodies exhibit certain movements resembling the movements of our own bodies when actuated by conscious impulses. We know nothing whatever of the real nature, or essence, of the power that produces these results either in ourselves, or in them. In their case, we have nothing but physical appearances, yet we do not for a moment doubt that these movements are guided by intelligence to a designed result. We are justified in drawing the same inference respecting nature distinct from human bodies, when we observe certain phenomena. We do not hesitate to ascribe these changing phenomena to some reality behind them. We go even further. We find, in ourselves, conscious intelligence; we form plans and we have power to realize them, and we ascribe the same characteristics to other beings like ourselves.

We are following strictly the same process of reasoning when turning our gaze to external nature and finding there far more elaborate and skillfully contrived plans than we have ever been able to execute; and remembering that man himself is but a part of nature, and is included, as a conscious, rational, and voluntary being in the same great scheme, we feel compelled to recognize the attributes of personal intelligence. In doing this, we no more pretend to fathom the nature of the inscrutable reality

thus revealed to us, than we pretend to understand the personality revealed to us in our fellow-men. In either case, we are directly dealing with mere phenomena, but as we cannot refuse to recognize personal intelligence in the minor facts which we term human beings, we cannot consistently refuse to recognize it in the stupendous phenomena of the external world. We go no further in the one case than in the other, and as we claim only to know very imperfectly our fellow-beings, when we ascribe to them the attributes of persons, so no more can it be said, when we ascribe the same attribute to the supreme cause, that we have found out the Almighty to perfection.

It may still be urged that, even granting that this process is legitimate, and that in reaching this conclusion we do no more than when we reason respecting any phenomena, yet a reverent mind shrinks back from it, since in thus ascribing personality to the unsearchable power revealed in phenomena, we only invest him with attributes which are but exaggerations of our own qualities, and thus degrade him to our own level. This objection is urged as conclusive by those who love to express contempt for what they are pleased to term "Anthropomorphic Theism," yet, on examination, it will be found destitute of real weight. For what are the alternatives which are open to us? Do we get a more adequate and more exalted conception of the Supreme Being by refusing to invest him with personality. There may be, Mr. Spencer suggests, "a mode of being as much transcending intelligence and will as these transcend mechanical motion." This no one will deny, for no one claims that the designation of the

Supreme Being, as personal, is anything more than a partial and inadequate description. But how shall we make the nearest approach to a conception of this transcendent being? Is it by appealing to the lowest conceptions that nature supplies us, or is it by appealing to the highest? Is it by expressing the Supreme Being in terms of physical force, of matter and motion, or is it by expressing him in terms of spiritual action, of will, intelligence, and personality? Granted that both are imperfect, which is likely to be more adequate. Is it not obvious that the former way of conceiving, or of describing, the Supreme Being, instead of giving us a more elevated, is to give us a more degrading conception? Our highest conception of existence is bound up with personality. From this highest level of experience we must start to reach the most adequate conception of the Supreme Being. Our argument, in short, amounts to this; that to refuse to form any conception of Deity is to rest in utter vacancy, and is the least satisfactory and least rational result of all; that to accept the existence of a reality behind phenomena, and describe it under phrases derived from physical causation, is to represent the supreme cause as in reality inferior to ourselves; and that hence the only rational course, always bearing in mind the inadequacy of our conclusions, is to invest him with the highest attributes of which we have any knowledge, — the attributes of a personal being.

LECTURE XI.

THE ALTERNATIVE THEORIES.

I HAVE thus far aimed simply to present the positive grounds on which the theistic argument rests. I have confined myself throughout the entire discussion to rigid inductive reasoning. From the manifest and undisputed facts presented in the external world and in human consciousness, I have sought to establish certain conclusions respecting the existence and attributes of a supreme cause. By a similar method I ascertained the existence of certain necessary intuitions of the mind, and proceeded to connect these intuitions with the conclusions already reached. At this point the argument was completed. Whatever validity it has a right to claim, and whatever acceptance it ought to win, depend upon the force of what has been presented. My aim has been to set forth the rational grounds by which we are led to a belief in the divine existence, and the conclusion to which the discussion has brought us is that no other intelligible explanation of the universe is possible, save that it owes its existence and its continuance in existence to a self-existent being who is infinitely powerful, wise, and good.

A conclusion so solemn and momentous ought to make its appeal to positive grounds, and on no other could its acceptance be for a moment urged. If these are not sufficient, nothing is left but to aban-

don the argument altogether. But the question may be looked at in another light, and, before we leave it, it may be useful and instructive so to do. If I have not wholly failed in the task I have undertaken, I have shown that these positive grounds are sufficient, and that they have not been shaken by any of the recent objections brought against them. Still, without implying any doubt as to their sufficiency, we may ask, before closing our discussion, what is left us should the theistic conclusion be rejected. Even if our argument for the divine existence has not been carried to the point of absolute demonstration, it will hardly be denied that it reaches a high degree of probability, and that it supplies a rational explanation of the phenomena of the physical universe and of consciousness. The question which I now propose to ask is: in case this conclusion be rejected, what other explanation of the facts of nature or of life shall be substituted for it?

In presenting what seems to me the convincing and overwhelming proofs of theism, I have already been compelled to examine at considerable length the leading antagonistic theories. For much of the argument could not be fairly unfolded without keeping constantly in view the objections that had been brought against it. But this was mainly for the purpose of warding off the attacks of those who deny that theism rests on any sufficient foundation. The treatment of these objections was defensive. So far as the argument was concerned this would have been sufficient, and the objections brought against theism might well have been left alone after their inadequacy or irrelevancy had been made apparent. Our discussion of the subject will, however, be more

complete and more satisfactory, if we go beyond this, and inquire whether those who reject theism have, themselves, any sufficient ground to stand upon, and whether the various substitutes which they offer meet those wants which have led the great majority of mankind to crave with so much earnestness some proof of the existence of a being superior to themselves.

The time remaining at my disposal would not allow anything like a complete review of anti-theistic theories, even were such a review in itself desirable. For my present purpose it will be enough to confine myself to the more prominent hypotheses which are just now awakening discussion. The denial of the divine existence has assumed a great variety of forms, and has appealed, at different times, to a great variety of arguments. Still each successive age has had its distinctive type of unbelief, and the phases of anti-theistic speculation may be very readily discriminated. While these are often closely connected, and pass one to the other by a very gradual process of development, they may yet be regarded as distinct, and as having a real relation to the currents of contemporary thought. I propose to pass in review, at present, only those aspects of anti-theistic speculation which reflect our present ways of looking at nature or at man, and which have sprung directly from the intellectual conditions of our own time. This will furnish us with more than enough for satisfactory examination during the hour before us.

The negative of theism is atheism, but with atheism, in the strict meaning of the term, we do not need to concern ourselves. For if by atheism we

mean the absolute denial of the divine existence, the theory is one that hardly calls for serious refutation. It is true that some are found, even in our own day, who make a bold profession of this dogmatic atheism, who, if we may accept their own statements, have reasoned themselves into the conviction that there is nothing in the universe higher than man; that there is no good which is not material and perishable; that there is nothing infinite and nothing eternal in whom the soul may confide. Thus Feuerbach says, "It is clear as the sun and evident as the day that there is no God, and still more that there can be none;" and Flourens, in language more offensive, asserts, "Hatred of God is the beginning of wisdom. If mankind would make true progress it must be on the basis of atheism." When men meet us with declarations like these we are bound to take them at their word, however inconceivable it may seem to us that a rational being could be brought to utter such absurdity.

For the naked assertion that God does not exist is evidently one that no finite being is capable of making. Whatever may be the difficulty of proving that there is a God, to prove that there is not a God is manifestly beyond the power of human intellect. That God exists is a proposition, the truth of which may be deduced from a circle of facts lying within our immediate range; but to prove that God does *not* exist we must have sounded the universe in all its length and breadth. If he has left no traces of his existence in the narrow field open to our inspection, we yet cannot affirm that no such trace exists in the measureless spaces which we have never explored; if he has never uttered a

voice during the brief space that we have existed, we still cannot declare with certainty that he has never revealed himself to other beings during the eternal round of time. When, therefore, Von Holbach declares that the existence of God "is not a problem, but simply an impossibility," the statement may be dismissed as destitute of meaning. It is a waste of time to refute a proposition which the human mind, in the nature of things, has no capacity for asserting.

Few allow themselves to be hurried, either by passion or prejudice, to this irrational extreme. Without going to the extent of denying absolutely the divine existence, most of those who decline to accept theism content themselves with denying that there is any sufficient proof of the existence of a supreme being, or that if he exists we are capable of knowing it. To such as content themselves with this more moderate conclusion the term atheist is not commonly applied, and in some cases they have taken express pains to disavow it. This is the form of unbelief in the divine existence which prevails most widely at the present day. Unlike the extreme form of atheism, it cannot be dismissed as perfectly irrational, but claims to ally itself with the most certain conclusions of science. In distinction from the dogmatic atheism, which absolutely denies the divine existence, this is skeptical or critical. It does not declare that there is no God, but contents itself with affirming that the human mind can never know whether there is a God or not. The question of the divine existence it regards as an insoluble problem which the wise man will leave alone. For a human mind it has no meaning.

So far as the practical conclusion is concerned, the difference between denying that there is a God and denying that we can ever know whether there is a God or not is so very slight that the two theories might well be classed together. There is, however, between them a broad distinction, and those who hold to the latter are not bound, by any means, to accept the former. One is atheism, the other is agnosticism; one denies, the other simply holds itself in suspense. While the former has never gained any wide acceptance, and when averred seems the hasty utterance of passionate enthusiasts, the latter has much in common with the calm, even, cautious temper of modern times. It has, on its face, the recommendation of a modest theory; it harmonizes with the temper which science enjoins. Nor has it always been found associated with unbelief. Some have supposed that the claims of revealed religion could be more powerfully vindicated, that the authority of divine truth could be set in a clearer light, by first demonstrating the utter incapacity of the finite intellect to deal with any problems relating to the infinite and supersensuous sphere.

And here we are brought in contact with the first of the alternative hypotheses which I propose to consider, the system of thought which goes under the general designation of positivism. In using this phrase, let me premise that I do not use it in its strict sense as designating a single school, but rather as indicating a much more wide-spread habit of mind. Nor do I propose to discuss the question, how far this mental habit represents anything original in the history of speculation. I shall

simply exhibit its recognized and acknowledged attitude towards religion. Respecting this there is no room for dispute. According to the fundamental maxims of positivism, we know, and can know, nothing except physical phenomena and their laws. The senses are the sole sources of thought, and beyond the facts which they report, and the evident relations of sequence and resemblance in which these facts stand to each other, our intellectual vision cannot extend. Only the laws under which physical phenomena may be grouped present any legitimate subject of inquiry. Any attempt to go beyond this clearly defined line, any searching into the causes of phenomena, whether final or efficient, must be scouted as sheer folly.

Hence positivism lays of necessity an absolute interdict on all religious speculation. It equally rejects theism and atheism, and denies the capacity of human reason either to affirm or to deny the divine existence. Belief or unbelief, with regard to a problem so far transcending the legitimate range of human faculties is denounced as equally absurd, and a sane mind will hold itself jealously aloof from an inclination either to the one or to the other direction. The question of the existence of a supreme being, a being in whom we may trust, to whom we may look for guidance, whom we may love and reverence and adore, is a question that has for us no more significance than the question what language is spoken in the stars. It is a waste of time, a misuse of faculties, to busy ourselves with such inquiries. The fact that we are interested in such a question is simply proof that our intellects are immature. Wherever such speculations are

found thought is still in its infancy. We think as children, and we talk as children, when we prattle about a first cause or a Supreme Being. The best proof that we have become men is forever putting aside these childish things.

So far as the positive philosophy involved anything distinctive or original, it has had its day, and is now seldom mentioned but with contempt. It is needless to dwell upon its misconceptions and inconsistencies, and show how, in professing to rest itself upon an impregnable basis of fact, it either ignored or denied the most universal and best attested facts of human experience. As a mere theory, it is not in harmony with itself. It is, to a considerable extent, a materialistic theory; but so far as it involves materialism it denies positivism. For positivism asserts that we can know only phenomena; but materialism implies that matter is more than a phenomenon. Again, if, as Comte asserted, we know merely phenomena, we can have no warrant for saying that phenomena which we call mental can be resolved into phenomena which we call physical. We can only say that they are coexistent or successive. We have a direct and immediate knowledge of mental phenomena. We are as sure of their existence as we can be of any material phenomenon. A system which asserts that objects of sense are the only phenomena known contradicts the positive testimony of human consciousness.

Not only is the positive philosophy inconsistent, it is incomplete; it does not follow into the logical conclusions from its own premises. For if the senses are our sole means of knowing, then our only real knowledge must be sensations; but sensations

are simply states of consciousness; that is, they are phenomena, not of matter, but of mind. Therefore, if we know only phenomena, it is not material but mental phenomena that we know; and hence if we accept this system we are logically bound, to discard not only belief in God, but belief in the reality of any external world. A permanent possibility of sensations is, in fact, all that we have left. Nor can we stop even here; for mind cannot be identified with its phenomena. If we know only phenomena we know only a series of states of consciousness. We have no right to go beyond these. We have no right to reason respecting the mysterious thread which holds these states of consciousness together. Hence positivism must give up both matter and mind. So that the reasoning which undertakes to prove that we can know nothing about God, if pushed to its logical consequences, proves that we cannot know anything at all.

The assertion of the positive philosophy, that belief or disbelief in the divine existence is equally absurd, can only be maintained upon one of two grounds: either that there is no reason whatever in favor of either, or that the arguments which can be adduced for one are exactly counterbalanced by the arguments which can be adduced for the other. But to assert that there are absolutely no reasons which can be adduced for belief in the divine existence, as we have already seen, is to do what no finite mind has a right to do. To prove that God cannot be known, we must prove that there is something contradictory in the very notion of the divine existence; but a system which rests rigidly upon the facts of experience manifestly cannot do this. This can only

be done by an appeal to those very metaphysical ideas which the positive philosophy denounces as worthless. It only remains, then, to show that the arguments adduced in favor of the divine existence are exactly counterbalanced by the arguments adduced against it. But this can only be done by comparison and examination. And this examination evidently ought to be most comprehensive and thorough.

The only thing approaching such an examination which the positive philosophy gives us is in the so-called law of the three states. According to this, human speculation has passed through three stages. It was first theological, then metaphysical, and lastly, in the ripened manhood of human intelligence, it has become positive. Respecting this assumed law of human progress, it is enough to say, not only that no solid historical evidence was produced in its favor, but the known facts of history all disprove it. These coexistent states are here confounded with three successive stages of thought, — three aspects of things with three epochs of time. Theology, metaphysics, and science, instead of thus following one another in successive epochs, have always existed side by side, and exist side by side to-day. Neither one of them has passed, or can pass, away. All positive science rests on the recognition of metaphysical principles, and theology lies behind both. History, instead of showing that theology and metaphysics are mere passing phases of thought, makes clearly evident that they are modes of conceiving truth which are as permanent as human reason itself.

The fundamental objection of the positivist to theism is, that it is based on the assumption that

man can attain to a knowledge of causes, while, according to the positivist theory, causes are wholly inaccessible to human intellect. They lie in a region beyond that which his limited faculties can reach. It deserves to be noted that Comte admits that if reason can rise to the recognition of causes, belief in a divine author of the world becomes inevitable. All arguments of positivists against causes resolve themselves, at last, into this single one, that they cannot be recognized by the senses. Our senses show us simply succession, not causation, antecedents and consequents, but not causes and effects; and that we know nothing, and have a right to believe nothing, beyond what the senses teach. These arguments ignore the fact that the mind itself is a factor in knowledge, and that there are laws of thought as well as a constitution of things. Could their doctrine be established there would evidently be no room for religion. But the grounds on which Comte sought to establish it would have given him equally good reason for denying his own existence as for denying the existence of God. The mind cannot know itself as a cause if it cannot recognize cause in nature.

A most striking proof of the insufficiency of this theory was furnished in the fact that the founder of the positive philosophy, after proving that no religion was possible, became so conscious of his own religious needs that he proceeded to invent one. Having denounced "religiosity" as a mere weakness and avowal of want of power, he afterwards devised a creed presenting such a grotesque mixture of atheism, fetishism, and ritualism, that it has done more than all the arguments of his opponents to bring him and his doctrines into contempt. The essence

of this new gospel lay in a radical transformation of the meaning of the word religion.[1] With all mankind, and from the first day when the word had been introduced into human language, religion had been used to imply some sense of the supernatural. Belief in God was the essence of all that men had been accustomed to call religion. But according to Comte, religion is "the synthetic idealization of our existence;" or, in other words, the worship, not of God, but of humanity. As expressed by Mill, it is "a belief, or a set of beliefs, deliberately adopted, respecting human destiny and duty, to which the believer acknowledges that all his actions ought to be subordinate."

But while, as a reasoned system, positivism hardly calls for refutation at the present day, the mental attitude which it represents, and which is really very much older than any of the speculations of Comte, still asserts itself, and forms the real groundwork of much thinking which passes under another name. Some of those, in fact, who have been most ready to ridicule the French philosopher and his system virtually accept what was really essential in it. One of the most biting sarcasms uttered against positivism, as a specific system, has been uttered by Mr. Huxley. Yet it would not be difficult to quote from Mr. Huxley's writings passages which prove beyond doubt that his general attitude of mind, with regard to all truth beyond that which the senses cognize, is identical with that of Comte. Though he may scorn the name of a disciple, he is treading the same path, and logically should arrive at the same goal. And when Tyndall declares of the power manifested

[1] [See Comte, *Catéchisme Positiviste* (Paris, 1852).]

in the universe, "I dare not call it mind; I refuse even to call it cause," whatever name he may give to his speculations, he stands virtually upon the ground of Comte. He refuses to accept as truth what the senses do not certify.

The ablest avowed disciple of this school was the late Professor Clifford. With him human society is the highest of all possible organisms. Sociology becomes, therefore, the only foundation of morality, and for the ethical basis of human action we do not need to look beyond the confines of the present life. In the same spirit Mr. Huxley tells us that "the true city of God is where each man's moral faculty shall be such as leads him to control all those desires which run counter to the good of mankind." In other words, man's moral nature can be completely developed without any reference to an invisible world, or to an eternal destiny. Or, to quote Professor Huxley again: "The assertion that morality is in any way dependent on certain philosophical problems produces the same effect on my mind as if one should say that a man's vision depends on his theory of sight, or that he has no business to say that ginger is hot in his mouth unless he has formed definite views as to the nature of ginger." If this means anything, it means that the speculative opinions a man may cherish with regard to God and immortality are of no account as influencing his conduct, and hence that they are better let alone.

When positivism passes from the hands of men of science and letters, and assumes a coarser garb, it becomes secularism. The two systems are so nearly allied that one may be regarded as the practical theory of life to which the other supplies the specula-

tive basis. Like the positivists, the better class of secularists refuse to be called atheists. They even claim that literal theists, or literal believers in another life, may consistently force themselves, for practical ends, upon the secularist platform. As stated by their most intelligent representative, Mr. Holyoake, secularism starts with the study of nature, and simply ignores religion. It is a study of life and its duties, founded exclusively on a study of natural laws. With regard to the origin of these laws, it commits itself to no hypothesis. They are accepted simply as facts. The present life, with its duties, may be dealt with as a fact, without raising the question whether there is a future life. But to ignore is not to deny. As the chemist ignores architecture, but does not deny it, so the secularist concerns himself simply with this world, without denying or discussing any other. As a secularist he is not called upon to be either a theist or an atheist.

This purely secular or non-religious system is asserted as sufficient for all the practical and worthy ends of living. The man who guides himself by this rule has enough for all the duties that concern him as man. Secularism lays down as its leading principle, that precedence should be given to the duties of this life over those that pertain to another, on the simple ground that the duties which pertain to this life are known to us, while those which pertain to another are, at best, only matter of conjecture. The gospel it preaches is summed up in the maxim, "Be worldly-minded; think much of this life, and as little as possible of the next." Secularism scouts the idea that the future should influence the present. It recognizes no Providence but sci-

ence, and affirms that it will go well with us simply as we understand and learn to apply physical laws. Morality, and not religion, it maintains, is the proper business of life. In the general good we have a rule of action independent of God, of immortality, of revelation. In the practice of human duties, in the seeking of ends compressed within the scope of human life, we have sufficient incitement and sufficient reward. The foundation, the sanction, the inspiration of conduct, are all centred here.

I pass to consider the second of the alternative hypotheses which have been presented as substitutes for theism. Of all these substitutes it is the most wide-spread and most formidable, and must be regarded at the present moment as forming, without doubt, the central point from which anti-theistic speculation springs. This is materialism. But it would be a grave mistake to suppose that by this designation is meant any single or definite theory. On the contrary, it covers a variety of hypotheses, by no means consistent with one another. Used in its strict and proper sense, the term should denote a theory that seeks to explain the universe by what is known as matter; but no system of materialism has ever undertaken to do this. And it is the distinctive characteristic of modern materialism that it exalts matter far above anything that the senses can certify; it does not hesitate to ascribe to matter the attribute of self-existence; it endows it with a vague potency of life; it even goes so far, at times, as to attribute to it sensation, volition, and intelligence. The matter with which modern science deals is something wholly different from the matter of the old materialists.

We see from this how materialism passes beyond the line which positivism essays to draw. Positivism asserts that we can go no further than to recognize those orderly sequences in nature to which we give the name of laws. It refuses to search for causes, and hence denies philosophy. But materialism is a boldly reasoned theory of the universe. It sets itself up as an ultimate and complete explanation of things. The claim for acceptance which it most strongly urges is, that it meets, better than any other system, the legitimate demand of the mind for unity. It explores the ground of things, and seeks to satisfy the intellectual need of a first cause. Assuming that there can be but one ultimate solution of the problem of existence, rejecting every form of dualism, it looks beyond all secondary and coördinate causes for the supreme principle on which they are all dependent. It is really a philosophy of nature, of the boldest and most comprehensive kind; and whatever judgment we may pass upon it and upon its claims, it is impossible not to recognize the fact that, as a logical method, it is far more adequate and satisfactory than positivism.

And, considered as a method, it is not one that the human mind is likely very soon to outgrow. There is much in nature to make it attractive, and much in human life to lend it very strong apparent support. It seems to be peculiarly allied with certain conditions of social life. It has special affinities with any corrupt and disorganized society. It found advocates in England in the reign of Charles II. It was wide-spread in France in the period preceding the Revolution. It is not less closely connected with certain intellectual tendencies. It

would be a gross injustice to attribute the refined materialism of the present day to any low standard of morals, or pursuit of selfish and personal aims. Modern materialism is partly a natural reaction from the excessive idealism to which the transcendental philosophy opened the door, but still more a concomitant of the rapid and brilliant progress of physical and especially of biological science. This enormous advance in our knowledge of the organic world has had a marked effect on the scientific spirit. It has transferred science from the realm of fact to the realm of speculation.

There was a time when the methods of science were clearly defined, and when in practice they were rigidly adhered to. Science professed to reach her results by processes of induction or deduction, and the line between an ascertained law and an unverified hypothesis was carefully observed. Nothing was more common than to hear from the physicist expressions of contempt for the metaphysician. But with the recent rapid advance of the physical sciences this has been very much changed. The confident assertions that come to us from so many quarters show conclusively that the notion of what constitutes a proof has become extremely confused. The Darwinian doctrine of natural selection, for example, is, at best, but an hypothesis. It was so set forth by the cautious student of nature from whom it borrows its name. Yet by some it is asserted as though established by evidence as conclusive as that on which we accept the law of gravitation. We have a school of metaphysical physics which carries its conclusions far beyond anything that a mere investigation of phenomena warrants. With

this school modern scientific materialism is most closely allied.

If we ask for a definition of materialism, it may be stated as that system which essays to explain the universe in terms of matter. Bearing always in mind that it conceives of matter in that highly refined and etherealized sense in which it can hardly be distinguished from spirit, it resolves everything in nature, order, organization, sensation, thought, volition, into combinations and motions of matter. Thus the universe is exhibited as a homogeneous and coherent system. Without doubt this constitutes, for many minds, the strongest attraction of the system. It is a thorough system of monism, and conforms to that rational principle which compels us to admit as few causes as possible for a given phenomenon. If we claim for ideas an existence distinct from matter, we are met with the reply that we know nothing of ideas or thoughts except as states of consciousness, that is, as special phenomena in the life of men, which are simply the last product of a long natural evolution. Man is part of nature, and thought is simply part of man. Hence we are compelled to seek the explanation of man in the common source of all natural phenomena, that is, in matter and motion.

"I take it to be demonstrable," says Professor Huxley, who, if at times he is a positivist, at times is no less a materialist, "that it is utterly impossible to prove that anything whatever may not be the effect of a material and necessary cause, and that human logic is equally incompetent to prove that any act is really spontaneous. A really spontaneous act is one which, by the assumption, has no cause;

and the attempt to prove such a negation as this is, on the very face of the matter, absurd. And while it is thus a philosophical impossibility to demonstrate that any given phenomenon is not the effect of a material cause, any one who is acquainted with the history of science will admit that its progress has, in all ages, meant, and now more than ever means, the extension of the province of what we call matter and causation, and the concomitant gradual banishment from all regions of human thought of what we call spirit and spontaneity. And as surely as every future grows out of the past and present, so will the physiology of the future gradually extend the realm of matter and law until it is coextensive with knowledge, with feeling, and with action."[1] This lucid language can only mean that mind is but the highest development of force; that motion, heat, and light are but other names for sensation, emotion, and thoughts!

To this imposing hypothesis, however, an obvious objection at once presents itself. The strongest intellectual attraction of materialism consists in the fact that it is a system of monism; it apparently satisfies the craving for unity which is so deeply planted in the human mind, and which receives new support with the progress of knowledge. We may assume, without hesitation, that a monistic theory is the expression of rational thought. Human intelligence instinctively conceives of all coördinate causes as secondary. But the evident argument against materialism is that it does not meet this very want. We need not discuss the question, how far we reach any real unity by analysis of matter. How far sci-

[1] Quoted by Prof. R. Flint, *Anti-Theistic Theories*, p. 131.

ence may ultimately go in resolving the elements of matter into a single one, we need not undertake to decide. Certainly at present this goal is far enough from being reached. But, supposing matter to have been reduced to a single, pure, homogeneous physical element, we have still to explain the fact that, in all the phenomena of the universe, matter is always combined with force. It is not dead matter with which we deal, but matter organized, and undergoing incessant and universal transmutations.

The question at once arises, Is matter the cause of force, or is force the cause of matter? Unless one of these questions be answered in the affirmative, we have two original principles in the universe instead of one, and thus, at the first step, sacrifice that principle of unity on which scientific materialism so much prides itself. For evidently if force and matter be conceived of as not related as cause and effect, but as inseparable and coördinate, we have two eternal principles instead of one, and the boasted monism of materialism is merged in dualism. The perplexity of the problem is not lessened, but increased. If, on the other hand, force be conceived as the cause of matter, we preserve unity, but we destroy materialism. For we trace the existence of matter to an immaterial source; it becomes at once secondary and dependent. If reason pursues its search for unity it cannot stop with physical force, for a universe of physical force would be simply an aggregate of forces. Behind the multiplicity of natural forces there must reside some single, original, and indivisible power. But when we have reached this conclusion, we are on the threshold of the great truth that the universe had its origin in mind.

Thus, in this whole discussion of matter and force, materialism is involved in fatal contradictions. As a reasoned system of the universe it goes beyond its own limits, and falsifies its own premises. For materialism, so far as it claims any logical basis, rests on the postulate that all knowledge is attained through the organs of sense, and that beyond what the senses report, and the generalizations from this, we know and can know nothing. The properties of matter, it is claimed, are the sole, the direct, the immediate objects of the senses; and the facts of nature do not demand for their explanation anything distinct from matter. Materialism, of necessity, involves sensationalism, and sensationalism necessarily signifies that all knowledge of matter is dependent on the particular constitution of the senses of the individual. The materialist cannot pretend to any knowledge of matter as it is in itself; it can exist for him only so far as his senses perceive it to exist. "All our knowledge," says Professor Huxley, "is a knowledge of states of consciousness. Matter and force are, so far as we can know, mere names for certain forms of consciousness. What we call the material world is only known to us under the forms of the ideal world." [1]

But if matter and force are mere names for certain states of consciousness, what right has the materialist to ascribe to them any real existence independent of thought. Yet the whole system of scientific materialism is built up on the assumption of the real and independent existence of force and matter. We are told that force and matter are

[1] *Macmillan's Magazine*, May, 1870. See Herbert, *Modern Realism*, etc., p. 92.

eternal, that they are absolutely incapable of increase or diminution, of creation or annihilation. On what evidence are these assertions made? Is the eternity of matter or of force anything which the senses report to us? or is it a legitimate generalization from anything that the senses report? When he ventures to make these assertions, the materialist asserts something that he could, by no possibility, have learned through his senses, and something that no experiment of science could have demonstrated. Modern materialism rests throughout upon a series of realistic hypotheses, and yet these hypotheses, from its own stand-point, are wholly untenable. Materialism claims to be a system which appeals only to principles that are rigidly scientific, yet it cannot reach one of the conclusions on which it most strongly insists without setting these principles aside.

It would be, doubtless, an injustice to Mr. Herbert Spencer to term him a materialist, as that term is commonly accepted. It is claimed, indeed, for his system, that it has finally and completely demonstrated the untenableness of the materialistic hypothesis, and it is frankly conceded by his followers that through no imaginable future advance in physical discovery can the materialists ever be enabled to realize their desideratum of translating mental phenomena in terms of matter and motion. The latest results of scientific inquiry leave the gulf between mind and matter as wide as in the time of Descartes. The attribute of one is thought, and of the other extension, and there is nothing like identity, or similarity, that can be traced between them. In Mr. Spencer's view, physical and mental

processes form parallel series of changes, inseparable in fact, though refusing to be identified in thought. In company with our mental processes there is an unbroken sequence of physical changes, so that physical and mental phenomena, though distinct, are subjective and objective faces of the same fact, or, in other words, manifestations of an ultimate reality in which both are united.

By this highly metaphysical hypothesis, Mr. Spencer seeks to extricate sensationalism from the dilemma in which it is involved, and preserve those realistic conceptions which seemed at first sight dissipated. Without pausing to dwell upon the inherent difficulties involved in this theory, it is enough for our present purpose to ask what it accomplishes. From the alleged fact that the order of its manifestations throughout all mental phenomena proves to be the same as the order of its manifestations throughout all material phenomena, we are authorized to infer that it is one and the same ultimate reality that is thus manifested to us in these two ways; but beyond this we have no right to go. The nature of that which is revealed under these two forms remains forever inscrutable. Every hypothesis concerning the essence or attributes of this unknown reality can only illustrate our own mental impotence. Asserting persistence of power is but another mode of asserting an unconditioned reality without beginning or end. But the materialist may well ask, What advance in knowledge do we make by calling an eternal force an inscrutable power?

I pass to consider the third alternative hypothesis which has been presented in our own time as a substitute for theism, — the strange conception of the

universe and man which passes under the name of pessimism. Between materialism and pessimism there is this broad distinction, that materialism, if an insufficient explanation, at least claims to be a rational explanation of the universe. It aims to meet certain intellectual wants, and to answer the questions that the mind instinctively puts itself when it considers the wondrous framework of the world. And it claims to exalt the motives of living, so far at least as the present life is concerned. Pessimism, on the other hand, looks at the universe as a stupendous illusion, and expresses unqualified contempt for nature and life. It dismisses, as unworthy of the slightest regard, the demands of the intellect or the heart. Conscience it scorns as a chimera. Regarding the universe as throughout irrational, it makes no attempt to explain it. Good and evil are laid under the same condemnation. Considering existence itself an evil, it is brought logically to the dreary issue, that the only satisfactory solution of the problem of life is utter annihilation.

While, in its scientific form, this theory is one of the most recent products of thought, in its fundamental conceptions it is one of the most ancient. Without entering into the disputed question of the Buddhist Nirvana, it may be safely asserted that the Buddhist conception of life is essentially pessimistic. Evil, according to Buddhism, is of the very essence of existence. All sentient beings are made to mourn; the world is a vale of tears. The stream of life bears on its tide nothing but uncertainty and sorrow. All pleasure is rooted in delusion, and dogged by pain. What are reckoned good things are only seemingly good; the best of all is not to be.

It is as an escape from these evils that Nirvana is promised. Whether by this is meant a state of absolute extinction, or, as Max Müller would have us think, a state of blissful quiescence and repose, what alone renders it alluring is the contrast it presents to the evils of life. There is nothing in this present life that should detain us, nothing that in the end will not fail to satisfy, nothing that is not at war with the highest good of the soul. In its estimate of the nature and wants of mortal existence, Buddhism is thoroughly pessimistic.

That such a gospel should have been eagerly embraced by so many millions of our race, would seem to show that it conforms to some powerful instincts of the human heart. We need not seek for such instincts in the dreamy East alone. The tendency has been wide-spread, and even Christianity has not held wholly aloof from it. Many forms of Christian mysticism have run very close to the Buddhist conception of life; and from hymns that are sung every Sunday in our churches illustrations of a pessimistic habit of looking at things might be easily culled. Human life presents, in fact, a great variety of aspects, each of which may be viewed in a cheerful or a despondent light; and which of these two aspects will present itself depends, for the most part, on causes over which the individual has little or no control. There are few of us who have not known seasons when life seemed a burden hard to be borne, and when we have almost longed for the narrow house where the weary are at rest. Pain, disappointment, sorrow, — these are the spectre shapes that lurk by every pathway; and few are so uniformly strong and healthy and prosperous that, at

unbidden moments, we are not conscious of their presence. Sunshine and shadow alternate on every landscape.

Much of the most popular literature of every country derives its principal charm from voicing this discontent: "Vanity of vanities," says the Preacher, "all is vanity." "I have seen all the works that are done under the sun, and behold all is vanity and vexation of spirit." Classical literature abounds with similar complaints. The sunny Homer falls into a pessimistic vein when he says, "There is nothing whatever more wretched than man," [1] and the maxim of Menander is familiar to us all: "They whom the gods love die young." Seneca praises death as the best invention of nature, and the virtuous Marcus Aurelius holds it up as a positive good. Modern poetry is tinged with an absorbing sense of the sorrows of life. It colors the beautiful conceptions of Shelley; it utters itself, without restraint, in the lines of Byron, —

> "Count o'er the joys thine hours have seen,
> Count o'er thy days from anguish free,
> And know, whatever thou hast been,
> 'T is something better not to be." [2]

The intense, and often bitter, melancholy that pervades the lines of Heine, the representation of all earthly good as fleeting and unsatisfying, show how strong is the hold of this view of life upon sensitive spirits.

But it has been reserved for our time to elevate an occasional mood to the rank of a logical system, and to convert the laments of wearied and overwrought natures into established conclusions of

[1] Il. 17, 446. [2] [*Euthanasia.*]

science. Pessimism as a mere view of life is dependent on temperament, on circumstances, on bodily states; but pessimism as presented in its most recent and famous form claims to rest on a solid basis of reasoned truth. The founder of pessimism, in this sense, is Arthur Schopenhauer, whose early career in letters was a disappointment, and whose views of life were doubtless tinged with gloom in consequence. According to Schopenhauer, the world of phenomena exists only for our percipient minds, and its essential character is therefore mental representation. Yet this phenomenal world is not the whole of existence. Behind it lies an unexplored remainder, an absolute something, transcending and enfolding all existence, which Schopenhauer conceived as will. With him, will is the one universal substance: it appears in every blind force of nature; it manifests itself in every conscious act of man. Thus will is the ultimate principle of all things. Unlike the materialists, who reduce will to force, Schopenhauer reverses the process, and reduces all the forces of the organic and inorganic world to will.

It is in the nature of will that Schopenhauer finds the basis of his pessimistic theory. Will is, in its nature, striving. In its absolute existence, blind, unconscious, purposeless, it comes to self-consciousness in life. It manifests itself in man and the lower animals as will to live. Life is that for which everything pants and labors. From this effort and struggle, it results that life is a constant discontent, — an insatiable thirst. Permanent satisfaction is out of the question. No sooner is any new stage reached than new wants are created, and the longer the

process is continued the more these wants are multiplied. For the misery of living, being thus essentially connected with the nature of will, increases in the direct ratio of consciousness, or intelligence. In the lower order of creatures it is trifling; it becomes intense in the vertebrates; it reaches its maximum in man. Man is simply the concrete embodiment of a thousand needs. The more intelligent he is the more acute his suffering, and the man of genius suffers most acutely of all. Even habit, which dulls pleasure, increases sensibility to pain. Life is but a process of dying; the history of the race a "dream, long, heavy, and confused."

By Hartmann this theory is modified in form, but with the same substantial result. Whatever his own claims to be regarded as an independent thinker, his system must be regarded as a development of Schopenhauer's main ideas. At all events, he reaches precisely the same conclusion. He accepts the same pessimistic view of life, and, like Schopenhauer, sees in the cessation of life the only ultimate relief for rational beings. That absolute ground behind phenomena which Schopenhauer defines as will, Hartmann defines as the unconscious. Everywhere, he claims, in the processes of organic life, the action of unconscious will and unconscious intelligence is clearly recognizable. But in the phenomena of instinct, this action of unconscious mind is much more distinctly presented. These phenomena clearly involve mental processes, and since they are not conscious they must result from a will and an intelligence which are, in every sense, unconscious. But the great region in which the unconscious reveals itself is the human mind. In love, in feeling, in

pleasure and pain, in character, in artistic creation, it may be distinctly noted; so that all the conscious acts of man may be traced back to an unconscious presiding and directing volition.

From this fundamental conception his view of life springs. Since existence is thus due to the working of unconscious and unintelligent will, it is essentially irrational and incomplete. It is, in fact, a huge blunder. Like Schopenhauer, he regards the impulse to will as the primary source of all the misery of life. He holds that it is of the nature of will to be eternally dissatisfied; and since, in consequence, the sum of pain must always exceed the sum of pleasure, not to be is better than to be. As a conclusion based on a systematic examination of the facts of life, he does not hesitate to assert, not only that pain preponderates over pleasure as a general rule, but that, even with the most highly-favored individuals, this is the fact. If we look at the lauded results of progress they dwindle to nothing. Neither theoretical nor practical science have effected much for human happiness. Social and political progress may remove negative evils, but do nothing to promote the positive pleasures of life. If we ask, What is the final end of the world-process, of the long evolution of life? the only answer that Hartmann gives us is, that the misery of life can be annihilated only by the total denial of will.

So far as pessimism lays claim to any philosophical basis it need not detain us long. In the mere conception of Schopenhauer, of the universe as having its sole ground of existence in will, there is much that is noble and elevated. It marks a great advance upon materialism, for it gives a direct and ab-

solute denial to the theory that all phenomena can be explained in terms of matter and motion. It carries the mind far back of mere physical causation. It insists that every object which is recognized by our senses, that every change which takes place in the universe, is but the manifestation of one infinite will. Any materialistic hypothesis of nature is rendered forever impossible by this theory. The result here reached, as I have endeavored to show in a former lecture, is one of vital import. But having reached this result, why stop here? If the universe is only a manifestation to sense of the universal will, which is the essence and internal nature of all things, which creates and sustains all things, why may we not argue from the constitution of the universe back to the characteristics of this will, which is precisely what we have been doing throughout this whole discussion?

Hartmann modifies the theory of Schopenhauer in tracing the universe to two principles, will and intellect, acting in inseparable but unconscious union. Consciousness does not exist until these two principles are partially divorced in man. He admits design in nature, recognizes in its adjustments the evidences of purpose; but will not admit that the intelligence and will, thus clearly manifested, are attributes of any conscious subject. The "Unconscious" is the phrase with which he describes this principle of all things. But Hartmann, to establish his theory, follows the method of the physical sciences. He rests his conclusion almost wholly upon induction from observed facts. The simple question, then, that presents itself is, What do facts show? This question, too, we have endeavored to answer in the

preceding discussion. No one denies that nature presents everywhere the evidence of unconscious action. In some instances, as with instinct in the lower animals, it is action with reference to an end. But nature presents just as clearly facts of another class, — facts that prove conscious and intelligent action, as illustrated in man. Shall we now explain the lower by the higher, or the higher by the lower?

Pessimism makes its main appeal to the facts of life. From these facts it draws its conclusion respecting the value of life. And, in making such appeal, it has not been without its use. In some respects it supplies a wholesome protest against a superficial optimism that has not been without its advocates. It serves as a corrective of the too complacent view, which some have been inclined to take, of human life and of human destiny. This distinct vein of optimism runs through most of the moralists of the last century. By those writers the pains and evils of life are almost proved not to exist. Pessimism has a use in calling attention to the darker aspects of life. It will not let us lose sight of its mystery. It brings home to us, with unrivaled force, its solemn lessons. If it gives us no worthy solution of the problem of life, it at least does not evade, or set aside, or seek to misrepresent, those distinctive aspects of life which invest it with so much meaning. It forces upon the most thoughtless the great fact that life, limited to earthly conditions, and looked at simply from a human point of view, is full of perplexing and inexplicable contradictions.

In undertaking to make an estimate of the value of life, and give an answer to the question whether

life is worth living, it is evident that all will depend upon whether we regard life as a fleeting state of consciousness, extinguished forever in the grave, or whether we look upon this life as a preparation for another. I am far from asserting that all the evils and sorrows of life find their explanation in the doctrine of immortality, but it is plain that, in striking a balance between the good and the evil of life, the doctrine of a life to come, in which so much that seems evil in this present life might be turned into a means of good, would form a very important element in the calculation. But this element pessimism ignores, for it allows no future for man but the annihilation of his conscious personality. It begs, at the outset, one of the essential questions which reasoning from the facts of life is meant to solve. The true answer to the pessimistic theory will be found, not in refusing to recognize the dark shadows of life, but in looking through these dark shadows to the light beyond. Faith in God furnishes the only satisfactory solution.

LECTURE XII.

THE INFERENCES FROM THEISM.

I HAVE now brought to a close the task which I undertook. I trust that the manner in which the subject has been handled, however imperfect, has yet justified the claim which I made, at the outset, that though the theme was old as human thought, yet the altered phases of opinion respecting many of its fundamental aspects furnished ample excuse for giving it a fresh examination. With this conception of my task, it has not been my aim to review all the grounds of natural religion, but simply to ascertain how far those grounds have been affected by recent scientific theories. This has sometimes required me to restate familiar truths, and enter upon paths which have been frequently trodden; but I have only done so when a different course would have left my argument obscure or incomplete. It would be evidently impossible to decide, with any satisfaction, how far the argument for theism has been modified by modern speculation without determining the precise nature of the argument itself. For there are some forms of the argument which I would not undertake to defend.

By a certain class of writers it has been asserted that the physical theories of the present day have placed the problems of natural theology upon a wholly new basis; and that the more recent con-

clusions of science, if they have not absolutely disproved, have at least rendered wholly unnecessary and gratuitous any hypothesis of a supernatural origin of the universe. The universe, with all its manifold phenomena of matter and of mind, can be sufficiently accounted for, we are assured, in terms of matter and motion; and the conception, so long cherished, of an intelligent author of nature must give place to the doctrine of the persistence of energy, of natural selection, and of evolution. Evolution, especially, is the conjuring wand made use of to explain the riddle of existence. It has been my aim, throughout this whole discussion, to make evident that, even if we accept these hypotheses as well established, they still do not touch the ultimate problems with which natural theology deals. They simply illustrate the method by which nature works; they belong to the sphere of second causes; they do not answer one of the questions which the mind is forced to put itself in presence of the transcendent mysteries of existence.

Before leaving the subject I am anxious to make my views on this point perfectly clear. In the course of my argument I have frequently controverted theories which are classed as scientific, and may have seemed to place myself in opposition to the conclusions of science. I most earnestly disclaim any such interpretation of my position, for I do not believe that there is, or that there can be, any antagonism between science and religion. I hold that so long as science confines herself to phenomena and their laws, any conclusions that she establishes are valid, and must be accepted without dispute, and I hold that science is never required

to go beyond this. But I also hold that any satisfactory conception which we can form of nature, or life, involves inferences that go beyond phenomena, and that the whole structure of human knowledge rests on assumptions that science is not competent to establish. Science calls on us to exercise faith in many things not demonstrable by reason. In fact, we transcend phenomena, and put faith in the unseen when we infer the existence of a material world, just as much as when we infer the presence of a supernatural agency.

Deducing my inferences both from the facts of the external world, as they are made clearly manifest to unbiased observation, and from the less evident, but not less real, and more impressive facts of the inner world of consciousness and moral action in which we come nearest the mysterious source of energy, of volition, of life, I reached the conclusion that the most rational explanation that can be given of the universe, with all its varied manifestations, both of matter and of mind, is the explanation which recognizes a being of infinite wisdom and power, in whose will all existence had its origin. I have not claimed that this infinite being can be more than imperfectly recognized by the limited intellect of man; nor have I claimed that the existence, even, of this being can be demonstrated as we demonstrate the abstract truths of science. I have only claimed that the universe, as a great fact, demands a rational explanation, and that the most rational explanation that can possibly be given is that furnished in the conception of such a being. In this conclusion reason rests, and refuses to rest short of any other.

In asserting this much let me not, however, be understood to imply that the conclusion here reached, simply as a rational inference from the facts of external nature and of consciousness, is by any means coextensive or identical with that belief in God which is the essence of religion, and which has been such a controlling factor in the shaping of human character and of human society. The task which I have attempted has a much humbler and more limited scope than to account for such a phenomenon. All that I have aimed at has been to establish the intellectual grounds for this belief, so far as they exist in nature alone. All that we have been able to reach by this process is a logical conclusion, a result far short of the practical conviction by which men have been swayed. Such mere logical conclusions may remain abstract and powerless, with no vital relation to the deepest sources of belief and action. Yet, while it is only a step in establishing a positive theistic belief, it is an essential step, and whatever further and fuller conclusions we arrive at will be found to imply these preliminary postulates.

And still less would I be thought to imply that belief in God, as it actually exists, and as it actually sways such countless multitudes of men, has had its origin in any such process of reasoning as I have here traced out. As a matter of fact, belief in a Supreme Being is never arrived at in this way. The great mass of mankind who sincerely accept this great truth, and who show in their daily lives that they are governed by it, have never reasoned about final causes, or analyzed the intuitions of the mind. If religion could only exist under this con

dition, atheism must be the dismal refuge of the great majority of the race. It has been because they have been possessed with this belief, because they have been conscious of the mighty hold it had upon them, because they have sought in vain to break its bands asunder and cast it away from them, that they have been prompted to analyze its rational grounds. Belief in God is a great primary fact in human nature, — a fact which individual consciousness establishes, and to which the experience of the whole race bears witness. It is older and deeper than any arguments about it.

The positive religious value of the conclusions which we have thus far reached lies not in these conclusions, taken by themselves, but in the further inferences which we draw from them. The theistic argument, the steps of which have been traced in the foregoing lectures, if accepted as valid, establishes a fundamental truth, — a truth, indeed, the most fundamental in human thought; a truth which is the condition and ground of all religious belief; but yet a truth which, by itself, may remain a barren and abstract speculation. It is a truth which, disconnected from other truths, is too illimitable to be grasped in human consciousness. That God exists, that he is infinitely wise and good, that he is a person, even, with affections analogous to those which are felt by us, — all these are statements which may be accepted without hesitation by the speculative intellect, but which yet can have little practical meaning, unless it can be further shown that there is some vital relation between this infinite being and ourselves. It is in bringing us to this conclusion that natural religion discharges its most important function.

The connection between natural and revealed religion, as I remarked in my opening lecture, is a question on which opinions are by no means harmonious; and the line of distinction between them is one that cannot be traced with entire precision; but it is clear that they must stand or fall together. And this for the simple reason that the conclusions of natural religion are the postulates on which revealed religion rests. Hence, unless the results of the preceding discussion are accepted; unless we concede that the material universe furnishes evidence of the existence of an immaterial cause; unless we concede that human faculties, though limited, can overleap the limits of the finite and the sensible, that in nature they can recognize the presence of the supernatural, it is idle to make any appeal to the teachings of revelation. And it is equally true, that all the conclusions we have reached respecting the existence and attributes of a Supreme Being remain an idle speculation, unless we proceed to draw from these conclusions the further inferences they involve respecting the relations of that being to ourselves.

I am well aware that in any inferences from natural religion as to the possible nature, or contents, of a revealed religion we should proceed with the utmost caution. On subjects so much above the ordinary range of our reasoning, any conclusions must be accepted with hesitation. Unless we tread warily on such a road we may prove more than we intend. The most discreet and sober of theologians, Bishop Butler, warns us that we are in no sort judges, beforehand, by what laws or rules, or in what degree, or by what means, God would instruct us,

either by the use of our natural powers, or through a supernatural revelation. Yet he gives us the example, in his famous work, of the method of reasoning by analogy from the truths of natural to the truths of revealed religion. We cannot doubt that such reasoning is legitimate, and that the inferences which it involves must be accepted. And all that we have ascertained with regard to uniformity of method in the physical universe must dispose us to believe that between the truths of natural and the truths of revealed religion some close correspondence must exist.

Throughout these lectures, as you cannot fail to have observed, I have earnestly combated the opinion that either the methods or the conclusions of modern science, when rightly comprehended, are antagonistic to religious truth. Still, it has fallen within the scope of this discussion to show this simply with reference to natural religion. My proper subject did not go beyond this. But now I will go further, and express my profound conviction that the methods of modern science and the new conceptions of the physical universe which it has been the work of modern science to render familiar not only are not antagonistic to revealed truth, but will be ultimately found to harmonize more completely with that truth than the conceptions which they have displaced. In other words, the dynamical conception of nature as a plastic organism, pervaded by a system of correlated forces, uniting at last in one supreme force, is altogether more in harmony with the spirit and the teachings of the gospel than the mechanical conception which prevailed a century ago, which insisted on viewing nature as an intricate machine, fashioned by a great artificer who stood wholly apart from it.

I proceed to trace some of the more obvious inferences that follow from the theistic conclusion which has been established. The inquiry must have pressed itself upon many among us during the course of the preceding discussion: If all this be true, — if there exists, as is claimed, a being of infinite wisdom and goodness; a being whose will created and whose power sustains all that we see around us; a being, above all, who has caused to come into existence a creature capable of recognizing these attributes, and yearning for communion with the unseen source of his existence, — why should a truth so fundamental, so impressive, so consoling, be left veiled in so much obscurity? With the earliest impulses of conscious life the child learns to recognize its earthly parent; the mother's fond caress is the first convincing evidence of something outside itself; why should the existence of a heavenly parent remain to be demonstrated by such laborious argumentation? Why should the human soul be left in any doubt and uncertainty respecting the existence and character of the being in whom all things consist?

If it be true that such a being exists, if it be true that there is a God, that he is endowed with moral attributes, that all human creatures are subject to a moral law, that to this law their actions must be conformed, that the end of their creation can be realized only so far as this conformity is attained, no one can doubt that the knowledge of this being and of this moral government is more essential to the welfare of man than any other knowledge. No knowledge of mere natural things can for a moment be weighed with it. We can understand that a sincere and in-

genuous mind may be haunted with doubts of the divine existence. If we accept the assurances of some sober thinkers, it is possible to look abroad over the creation; possible to recognize, to the fullest extent, the wonderful harmony and intricate adaptations of the physical world; possible to study the impressive workings of man's moral nature, and not be convinced of the divine existence. But it is impossible to conceive that any one can concede the fact of that existence, and not regard the knowledge of God as the most excellent of all knowledge.

It does not matter in the least how human nature, as such, came to exist. We take it simply as a fact, — as a fact just as real, just as indubitable, with the same claim to our attention, and as capable of being examined and understood as any fact of the physical universe. No matter how man began his career. We may accept, if you please, the most extreme hypothesis, which explains not only his physical but his intellectual and even his moral being from a long process of evolution, reaching back to the fiery cloud which, we are told, was once the sole thing floating in space; still, with his present endowments and attributes and yearnings, he remains just as much a fact, and just as much the supreme result which the travailing creation has thus far brought forth. He is the marvelous world-child; in him the whole effort of nature is summed up. And it cannot be denied that the characteristic thing about him is his appetency for the invisible. Creature of time and sense, he instinctively strives to pass these barriers. With large discourse of reason, he longs to lift the veil and solve the great mystery of life and death.

According to the view which has been strenuously

insisted on throughout these lectures, the existence of such a rational being can only be explained as the result of a divine purpose. Evolution itself becomes a rational explanation of the universe and a working hypothesis only on this admission. Evolution, by itself, is a mere process, which, in turn, needs to be accounted for. We cannot conceive of evolution out of nothing, nor can we conceive of orderly and progressive evolution save with the admission of directing intelligence behind it. So that man, however we may explain the method by which he came to exist, must be regarded as a divine product; and not only this, but, so far as we know, as the highest product of creative power. He is the image of his Maker. In his moral freedom and power of choice and capacity of originating acts, he supplies us with the most adequate commentary on the power by which the worlds were made. Nor can we admit all this, and not proceed to draw the conclusion that such a being must have been meant for a more intimate communion with his Maker than mere nature affords.

It seems to me beyond a doubt that the truths of natural religion not only furnish the basis for revealed religion, but that they render the fact of a revelation in the highest degree probable; or, in other words, that revelation is not only a historical fact, capable of being brought into harmony with the doctrines of natural religion, but that natural religion furnishes the antecedent grounds from which the fact of a revelation might be inferred. In truth, revelation is a postulate of human nature, when we use the term in the large and adequate sense which alone covers the facts in the case. All

human history shows that man is not satisfied with his present surroundings. He looks before and after; he asks himself the question, Whence am I, and whither shall I go? He instinctively reaches after the source of things. The centuries ring with his cry, "If a man die shall he live again?" Man is as distinctively a religious animal as he is a social animal, and by the whole make and strain of his being he is forced to murmur, "Oh, that I knew where I might find Him!"

When I thus claim that revelation is a postulate of human nature, I mean the fact of a revelation, not its specific contents. I am aware that it may be objected that this claims too much; that if revelation be thus accepted as a postulate of human nature, we are logically led to the conclusion that revelation must have been primeval and universal. But this is a conclusion from which I not only do not shrink, but one which, on every account, I am inclined to accept. Such a conclusion seems to me not only in the highest degree probable when we reason from the truths of natural religion, but to be in accordance with the traditions of the past. All these preserve the memory of an early guidance of the race, and tell us of the day when man was cheered with divine communications. And, however we may suppose that these primeval traditions have been overlaid with myth and legend, and however difficult it may be, at the present day, to separate the original germ from the subsequent accretion, the fact seems attested beyond doubt. And to this great truth of a primeval revelation, I need hardly add, the Hebrew Scriptures bear impressive testimony.

I by no means assert that, on the grounds supplied by natural religion, we can demonstrate *a priori* the contents of a revelation, for were that possible the need of a revelation would no longer exist. Could we foretell with certainty the precise import of the message, we should need no further information respecting its source. In the very idea of revelation is involved the existence of truth which we could arrive at in no other way. It would cease to be revelation if it contained nothing more than the unaided reason could search out. As a manifestation of the absolute truth, it must contain elements outside the bounds of finite inquiry. All that I insist on is that human nature, in the course of its development, and as a necessary result of that development, reaches a point where it is no longer satisfied with the conditions of its existence; where, like a child that has come to man's estate, and is no longer capable of being pleased with childish things, it demands a new environment, and yearns for a fuller knowledge, and is haunted with the larger problems that spread out before it.

Now if we concede that the human soul has been brought to this stage by a normal development; that these yearnings, instincts, appetences, — whatever they may be called — are inseparable from the advanced state of progress to which it has been brought; that they are the logical consequence of a process of moral and spiritual evolution, no matter at what point that process began, or by what agencies or methods it has been carried on, then I claim that the accepted teachings of modern science warrant the inference that these new wants and new capacities would be provided for by some modifica-

tion of the conditions of its existence. We may safely assert this much, and assert no more than is asserted by those who claim that the physical, the moral, the social condition of man, as he exists to-day, in the highest stage of his development, is the consequence of a correlation between the inner growth and the external environment. A revelation to waiting, expecting, yearning man of spiritual truth would be the most complete, the most impressive, the most beautiful illustration of this law.

If, in answer to this, it be said that revelation, if we regard it thus as a continuation of a great system of development, reaching back to the very beginning of things, should itself bear the marks of progress, and show a continuous unfolding, I reply that such is undoubtedly the fact. All that natural religion can do is to render a revelation probable, and show that such illumination of man's spiritual life, from a source outside himself, is strictly in analogy with the whole method of nature; the precise scope of a revelation can only be learned from a study of the revelation itself. Here we revert to the facts of history. That a revelation is reasonable, that a revelation is probable, the instincts of the soul and the methods by which the universe has been produced unite to show; but to learn how it was really made, to ascertain how far the actual fact conforms to this anticipation, we must study the records of human experience. From an investigation of the actual course of these divine illuminations, as they cast their radiant light across the page of history, must we trace their correspondence with natural laws.

Now, if we look at that revelation which asserts

itself as the supreme communication to man from the spiritual world, we find it marked by nothing more indubitably than by this very characteristic of progressive adaptation, both to human capacities and to human wants. First the blade, then the ear, then the full corn in the ear; this is the note of revelation, from the simple faith of the patriarchs on to the fuller day when man was taught the great lesson that he is a son of God. But the Old and New Testaments are vocal with this truth. And nothing in the New Testament is more marked and more significant than the constant assertion of the organic connection between the earliest simple communication and the final complete manifestation. It has passed to a maxim that what was hid in the Old Testament is brought to light in the New, and that lawgivers, prophets, and apostles, how dimly soever they may have realized the fact, were engaged in one great work, and were the ministers of one organic, ever advancing revelation. In the apostle's phrase, "they drank of that [same] spiritual rock."

In a natural desire to emphasize the claims of revelation, it has been too much the custom to draw a sharp line of distinction between natural and revealed religion; and hence, as a consequence, to represent the latter as something in its nature exceptional and wholly out of the common course. Thus the argument from miracles has been assigned a wholly disproportioned prominence among Christian evidences. Such reasoning is of the same kind with that which leads a savage to see a more evident token of the divine presence in an eclipse than in the orderly movements of Orion and Arcturus. If,

as we have seen, the creation is controlled by uniform laws, the instructed mind sees in the regular sequence of phenomena, in the harmonious movements of the heavenly bodies, in the unfailing succession of seed-time and harvest, the most striking testimony to the existence of an intelligent cause. Such a mind is most conscious of the presence of God, not in the earthquake, nor in the whirlwind, but in the still voice in which day utters to day and night shows to night the power and wisdom of the Creator.

So it seems to me that the most convincing proof of the truth of any revelation is to be found, not in the fact that it stands apart from nature, still less in the fact that it seemingly contradicts or suspends any of the laws of nature; but rather in the fact that it corresponds with nature, and that while going beyond it, while disclosing truths which mere external nature could not suggest, and which it never even entered into the heart of man to conceive, it still, in its supreme disclosures, conforms to the analogy of nature, and follows the method which nature in a lower sphere has indicated. Thus it is that revelation carries with it the irresistible conviction that the truths of nature and the truths of revelation have proceeded from the same source, and that all the testimony which has been furnished by one to the divine existence and the divine attributes is not contradicted, but confirmed, by the other. Such a revelation does not perplex reason and confuse the inferences drawn by the mind from nature, but stands in harmony with the whole system of things.

In the very idea of revelation as the communication of truth above the ordinary level of human

knowledge, and not attainable in the normal exercise of the human faculties, there is involved not only the possibility, but the anterior probability, that it would be accompanied with unusual phenomena. These phenomena are not, however, so much an essential part of the revelation as its incidental concomitant. They would not so much demonstrate its truth to those disposed to doubt or reject it, as confirm its truth to those already inclined to accept it. And however exceptional or abnormal such phenomena might seem, it is clear that they derive this character solely from the point of view from which they might be considered; since our knowledge of the powers of nature and of the relations of matter and spirit is far too limited to warrant any one of us in affirming that what seem to us the most exceptional facts and most contrary to our own experiences may not be the natural and necessary result of some higher potencies of which we know nothing.

It would, however, be a most natural and possible anticipation that these exceptional phenomena attending a revelation would be most marked at its earlier stages, and that, with its progressive reception, they would either wholly disappear or become its normal operation. To borrow an imperfect illustration from physical science, revelation in this respect may be likened to the transformation of energy. In the familiar case of heat, this transformation takes place between two bodies that differ in temperature. We get no work from heat unless part of it can fall from a higher to a lower grade. When two bodies differ greatly in temperature the transformation is violent; but as the level of the one approaches that of the other, the transformation is

more gentle and unobserved. So a revelation of spiritual truth to a race whose light was darkened would be attended with marvels, while to a race whose moral level had been raised precisely the same truth might be communicated without giving any violent wrench to their previous conceptions.

This course of reasoning derives a striking confirmation from the recorded history of revelation. Such a record, I need hardly say, is peculiarly liable to become tinctured, in the course of time, with human elements, and hence can only claim acceptance as subject to sound canons of historical criticism. With this qualification, the record of revelation shows one manifest and undeniable characteristic: that the most surprising phenomena belong always to its beginning, while, in its highest stage, the merely marvelous is always subordinated to the spiritual element. This feature, which is characteristic of the history of revelation as a whole, is further exemplified in the career of Jesus. His most surprising works were always witnessed in his contact with those who were just drawn to him, and with whom faith was undeveloped. With the inner circle of his disciples he ceases to be a wonder-worker, and in the last and loftiest revelation of himself to them, on the night before he was betrayed, he is simply the divine teacher, the true bread of life.

In the recorded miracles of Jesus I note two unvarying characteristics, — characteristics which have been far too much lost sight of by many of the most zealous defenders of his claims. In the first place, he always refused to work miracles simply as marvelous displays of power. He never made use of miracles as a means of convincing unbelief; on the

contrary, when unbelief was present, he steadfastly refused to do any of his mighty works. The doubts respecting his mission seem to have arisen mainly from his persistent refusal to work miracles simply to attest his mighty power. In him the miraculous was always secondary and incidental. In the second place, when his miraculous power was exercised it was always exercised not as something exceptional and strained, but as the purely normal and easy exercise of a power belonging to him. In the midst of his most wonderful works he seems to be pursuing the perfectly even tenor of his way, and when putting in play his most astounding powers betrays no consciousness that he was lifted in the least above his ordinary level. His resurrection is represented as a natural result.

In the record of miracles the greatest of all miracles is Jesus himself. The more closely and dispassionately we study his career, the more profoundly shall we be convinced of this. I do not now refer to him in any of the dogmatic or ecclesiastical aspects in which he is usually presented, and in which the most significant features of his character are too often obscured, but I refer to him simply as an authentic fact of human history. Whatever interpretation we may choose to put upon him, whatever degree of obedience we may choose to accord to him, respecting his purely historical position, his actual relation to the cause of man's spiritual development, there is no room for dispute. The most obdurate skeptic must recognize him as the most significant fact with which the student of history has to deal. In him centres, beyond doubt, the most complete revelation in the inner

life of man of which the human race has had any experience, and to him, as their source and fountain-head, reach back the most commanding influences that fashion modern civilization.

Yet what must strike every one of us most forcibly, as we study this marvelous career, is its perfect simplicity and naturalness. Asserting himself as a revelation in human life of the divine nature, he was the most intensely human of all religious teachers. Separate from men in the sinless purity of his life, he drew the outcast, and forsaken, and contemned to him with a might as irresistible as it was gentle and mild. He entered into the springs of human life, and touched its sympathies, and kindled its hopes, and drew forth its confidence and love, as could only be done by one who was himself in full sympathy with human wants. He taught transcendent truths, — truths that man had never conceived; but he taught these truths in words that were heard gladly by common people, and set them forth in illustrations and parables drawn from the most familiar incidents of every-day life. He did mighty works; he restored sight to the blind, he raised the dead, but he constantly reminded his hearers that better and greater than these wonders was the practice of the common duties of life, — to love our neighbor, to do good to such as despitefully use us.

In further illustration of this, let us not omit to note the significant declarations which Jesus makes respecting himself. At the beginning of his ministry he speaks with the authority of a master. He calls on his hearers to give up all that they have and follow him, and he calls in a tone of authority

which they are constrained to recognize and obey. His relation to them is external. He stands above them as their lord and king. So filled are they with the sense of his superiority that, in their reverence, they cast their very garments in the way before him. But when, at the close of his career, he comes to the deepest and truest and most inmost revelation of himself, his relation is represented, not as official and external, but as essential and internal. In that wonderful discourse in which he set forth most adequately the true nature of his spiritual kingdom, he describes himself under the most simple analogies of the natural world. He is the true vine of which they are the branches; he is the living bread which is given to them. He is no longer a mere teacher, but he abides in them, and they are made perfect as they abide in him.

Who can fail to notice the striking analogy between these highest teachings of Jesus and the latest results of our study of the natural world? As physical science has brought us to the conclusion that, back of all the phenomena of the material universe, there lies an invisible universe of forces, and that these forces may ultimately be reduced to one all-pervading force, in which the unity of the physical universe consists, and as philosophy has advanced the rational conjecture that this ultimate, all-pervading force is simply will-force, so the great Teacher holds up to us the spiritual world as pervaded by one omnipresent life, — a life which was revealed in him as its highest manifestation, but which is shared by all who by faith become partakers of his nature. When we are told that the Word, by whom all things were made, was made

flesh and dwelt among us, that the eternal reason abode in human form, we are not only told nothing that science contradicts, but have revealed to us a law of the spiritual world with which all the latest conclusions of science stand up in mighty and impressive parallel.

When we separate Christianity from its mere external circumstances, when we strip it of the dress which it wears of necessity as a historical event, related to a particular age and social state, and look at it in its deeper meaning, nothing about it seems to me so striking as this feature of which I now speak. It is a larger and fuller illustration of what nature everywhere shows. For not only does natural religion, considered fairly, make antecedently probable the fact of a revelation; not only does all that it reveals of the existence and nature of a Supreme Being, and of man's spiritual aptitudes and wants, prepare us to anticipate a time when man and his Maker would be brought into some closer contact and communion, but all that we learn of the processes of nature, of its progressive evolution, and of the presence of an all-pervading force shaping its phenomena still further prepares us for a revelation which is not a mere system of external laws and ordinances, but a spiritual force dwelling in man, and operating directly upon the human will.

The last and highest conclusion to which the researches of physical science have brought us is that there is a power behind nature making itself manifest through all natural phenomena. The highest, and at the same time the simplest, aspect in which Christianity is revealed to us is that of a new spiritual power imparted to human society. That stu-

pendous fact which we term the incarnation was simply this. It was the dwelling in human nature of a divine life and energy, the lifting of man to a higher level of spiritual activity. When Jesus chose for his favorite designation of himself the title "Son of Man," he hinted this great analogy between the natural and the spiritual spheres. As Son of Man he expressed and illustrated the crowning result of a human development, for in him humanity reached its highest level. Even when asserting his most intimate relations with the Father, he still spoke of himself as Son of Man. And, as Son of Man, he expressed the further truth that what he claimed for himself he claimed for his followers. They were his brethren. They, too, had power given them to become sons of God! The incarnation meant all this.

We are too much accustomed to look at the manifestation of God in Christ as something exceptional and apart; as something having no precedent, or analogy, or hint in any other modes of the divine working. Hence, as too often presented, the doctrine of the incarnation perplexes human reason. But there is no justification whatever for such a view. Not only is the incarnation in harmony with the method of nature, but it is uniformly described in Scripture as something wholly within the natural course and tendency of things. It was heralded by a long historical preparation; it is represented as the crowning result of a connected series of social and political changes; it came in the fullness of times. Everything about it shows that it was part of a purpose which had long been ripening, — realization, in fact, of a plan formed from the foundation of the

world. All this, while it does not in the least detract from the divine origin or authority of the Son of Man, yet sets him in the line of other historical phenomena, and reveals him, in his highest and truest aspect, as part and parcel of the whole system of things.

Hence it seems to me that the mode of conceiving the operations of nature which is most widely accepted to-day, which goes under the general designation of evolution, instead of rendering the great cardinal truths of the gospel less credible, only renders them more credible. Such a revelation of God as is given us in Jesus Christ is precisely the kind of revelation which the methods of divine operation, revealed in nature, would lead us to expect. It is a revelation throughout natural, simple, prepared for, coming as the result of a process, and illustrating in its coming all the antecedent steps and features of that process. The Son of Man did not separate himself from what had gone before, but ever claimed that he was only the complete fulfillment of what the law and the prophets had imperfectly taught. Most of all, the excellence of the gospel consisted in the fact that it was an inner dispensation; not an outward kingdom, not a system of external laws and ordinances, but a spiritual principle working in the soul, like the leaven which a woman took and hid in three measures of meal till the whole was leavened.

But we may trace this close analogy between natural and spiritual methods, not only in the great central fact of revelation, the manifestation of the eternal Word. What is so clearly illustrated at the beginning of the new dispensation is not less clearly

shown in its whole subsequent history. Not simply in the career of Christ himself, but in all that he teaches respecting the spiritual kingdom which he came to establish, we have the great truth set forth that the natural and the spiritual are not antagonistic, but that they proceed according to the same method and illustrate similar laws. As we rise from the realm of nature to the realm of spirit, we do not enter a strange and unfamiliar region. The same divine power is manifest in both, and is manifest in analogous ways of working. In his last sayings to his disciples, the Son of Man most urgently insisted on this truth. When he likened himself to a vine of which, He declared, they were the branches, he hinted to them the nature of that profound law by which the kingdom of nature and the kingdom of spirit are bound together.

When we look at external nature we are everywhere struck with the presence of two great principles, to which all the phenomena of the external world conform. These two, as I have already had occasion repeatedly to remark, are the law of unity and the law of progress. There is, through all the material universe, an organic connection, by virtue of which nothing stands apart and alone, but all things are members one of another; and precisely as we rise in the scale of being this organic unity and completeness are more apparent. It is by virtue of this organic relation that all the forces of nature are resolved, at last, into one force. And not less striking is the other law, everywhere manifest, by which the phenomena of nature follow an orderly succession, and constantly rise from a less perfect to a more perfect state. The physical history of

creation, so far as the curious eye of science has traced it back, is an illustration of this principle. Each stage of inorganic or organic being has led to another and better, and evolution from a lower to a higher has been the universal law.

Who can fail to note the fact that, in all that the Son of Man taught respecting the future growth and influence of that gospel which he so aptly likened to a grain of mustard-seed, we have these two principles continually set forth. He made organic unity the fundamental and essential condition of the new dispensation. This unity was set forth under the most expressive figures. Not only was he the true vine, but except his followers should abide in him they could bear no fruit. Christian life was not something sporadic and individual, having its source in the personal conviction of each disciple; it implied a real connection with Christ as the head. A spiritual power was promised to dwell in them which proceeded from one source, and should make itself felt in all as one and the same power. In other words, we have here repeated the great principle which physical nature everywhere presents; and just as back of all the phenomena of nature we have one pervading force, so behind all the varieties of Christian life and of Christian character we have one spiritual power. The truth is no more mysterious in the one case than in the other.

Furthermore, as nature shows everywhere a constant progress from the lower to the higher, so the Son of Man taught that his kingdom would be governed by the same law. In the very nature of the new dispensation this was involved; for this new dispensation was always described as a new life, and

the unfailing characteristic of life is progress and growth. When growth stops, decay and death begin. The gospel of Jesus was a proclamation of life; in him was life, and the aim of his coming was that men might have it more abundantly. And he taught, unmistakably, that this life would be progressive, not only in the individual, but in the larger scope and result of history. All the analogies and figures under which the Son of Man describes the future history of his church conform to the great law written on every page of the volume of nature. This new life should pervade human society as leaven leavens the loaf; it should spread among the nations as a seed grows to be a tree. That pressing toward the mark of an unrealized perfection, which was the characteristic of a genuine disciple, would be, not less the characteristic of the whole body of Christ.

These truths received their complete expression in the Christian doctrine of the Holy Spirit. In this doctrine which in its scope and bearings is far too much neglected, we have set forth the permanent relation of divine truth, both to the individual soul and to human society. It reveals the method by which the divine Spirit makes itself effectual in the life of man. According to the latest teachings of the Son of Man, his own personal mission was simply meant as preparatory to another, — a higher and a permanent dispensation. His own departure would be the signal for the outpouring of a new spiritual life which would abide with his followers as their organizing, directing, and controlling principle. It would be a force behind them, a force working through them, a force making itself manifest in their lives.

This indwelling life and power would at once supply the pervading principle of unity, by which, though many, they should always remain one, and the principle of progress, by which they should be brought to the mark of their high calling.

In the doctrine of the Holy Spirit we have, therefore, the most complete revelation of the harmony of the natural and the spiritual world. Here the methods of physical nature and the methods by which the divine Spirit directly teaches and illuminates human souls are made to illustrate and confirm each other. They are seen to be, not antagonistic, but harmonious; and we recognize the same power working in all things and through all things, and bringing all things to pass, whether we look at the works of nature or look at the spiritual life of man. These two revelations lend to each other a convincing and overwhelming support. As we accept in its fullness the Christian doctrine of the Spirit, we shall learn to look on all nature, not as a mass of inert matter, but as everywhere pervaded by a living presence; and so too, just as much, if we accept the modern conclusions of science respecting the force behind all phenomena, to which organization and life are due, we shall be disposed to accept the teaching of revelation respecting the work of the Spirit.

My limits allow me to glance only in the most superficial way at a few aspects of a great and solemn theme. Of course in the general idea at the bottom of my discussion there is nothing new. The analogy between the truths of natural and of revealed religion is an old and familiar theme. We have all learned it from one of the wisest masters of English

theology. "Men," says Bishop Butler, "are impatient and for precipitating things; but the author of nature appears deliberate throughout his operations, accomplishing his natural ends by slow successive steps. And there is a plan of things beforehand laid out, which, from the nature of it, requires various systems of means, as well as length of time, in order to the carrying on its several parts into execution. Thus, in the daily course of natural providence, God operates in the same manner as in the dispensation of Christianity: making one thing subservient to another; this to something further; and so on through a progressive series of means, which extend, both backward and forward, beyond our utmost view. Of this everything in nature is as much an instance as any part of the Christian dispensation." [1]

But the special point on which I insist is this: that this reasoning of Butler, instead of being weakened, has been greatly extended and enlarged by the results of modern science. From the obvious course of natural phenomena he reasoned to the more obvious teachings of revelation. What I claim is, that the modified views of nature to which modern science has accustomed us, views which were not accepted in Butler's time, have brought out, in a still more striking manner, the analogy between the methods of nature and the most distinctive and spiritual teachings of revelation. Modern science rests throughout on realistic assumptions. It tends to recognize in all nature a pervading unity. Behind phenomena it discovers what no phenomena directly reveal. It regards the universe as a process for

[1] [*Analogy*, P. II., ch. iv.]

which matter cannot account; and in all this I am glad to welcome a habit of mind, a mode of conceiving truth, which, whatever its present attitude, must ultimately tend to harmonize with the highest teachings of revelation.

And now, at the risk of what may seem to you a wearisome repetition, let me sum up in few words the results of this whole discussion. I have sought to show not only that the rational grounds on which we believe in the existence of God have not been affected by any of the recent conclusions of science, but that these conclusions lead us to a point where this belief is forced upon us with irresistible power; that the new conceptions of nature, with which science makes us familiar, render the presence and constant operation of God a most reasonable postulate; and that the modes of operation on which science insists, instead of making the mind averse to revelation, in reality harmonize with the most distinctive teachings of our holy religion. Whatever the personal attitude of some men of science, the bent and tendency of scientific thought is in a wholesome direction, and can only result in the fuller confirmation of that truth of which the church is the pillar and ground.

The term "evolution" need not disturb us in the least. In laying so much stress on this truth modern science simply repeats what was taught by Thomas Aquinas centuries ago, that one increasing purpose runs through the successive stages of creation up to man. The more carefully we study the process of creation, the more profoundly must we be convinced that this mighty process had its ori-

gin in mind; and the more devoutly shall we accept the teaching of Holy Writ, "In the beginning was the Word:" "all things were made by Him, and without Him was not anything made that was made."

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